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BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

EDITED BY

DR. G. CARMICHAEL LOW.

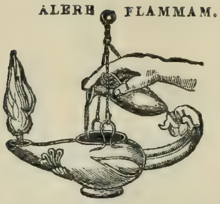
VOLUME LIII.

SESSION 1932–1933.

LONDON:

H. F. & G. WITHERBY, 326 HIGH HOLBORN, W.C. 2.

1933.


ALERE FLAMMAM.

PRINTED BY TAYLOR AND FRANCIS,
RED LION COURT, FLEET STREET.

PREFACE.

The number of attendances at the meetings of the Club during the past Session was again very good, though falling short of the record of 1931–1932, 365 members, 31 members of the B. O. U., and 129 guests having been present, a total of 525.

Unfortunately Major Stanley S. Flower had to resign the Chairmanship of the Club through ill-health, and Mr. David A. Bannerman was elected Chairman in his place.

The new Chairman delivered his annual address at the December Meeting, and in it dealt with what had been going on in the world of Ornithology during the past year.

As usual, a series of interesting communications on a variety of subjects were delivered. Mr. G. L. Bates gave an account of a journey made by himself to the French Niger and French Sudan in 1931–1932 ; Mr. H. F. Witherby exhibited a nesting-cavity and skins of the British Willow-Titmouse, and made remarks thereon ; Mr. D. L. Lack read a paper on the " Birds of Bear Island," this being illustrated with lantern-slides ; Mr. B. G. Harrison read a paper on "The Factors governing the Development of Parasitic Habits of Passerine Birds, and in particular of American Cowbirds" ; Mr. T. H. Harrisson gave a short lecture on an expedition to British North Borneo, also illustrated with lantern-slides ; Mr. Jack Vincent gave a lecture on an expedition to Portugese East Africa in 1931–1932 ; Dr. C. H. Kellaway showed a series of lantern-slides of Australian birds: and Mr. Jack Mavrogordato read a paper, illustrated with photographs, on " Flights with the Trained Goshawk," specimens of English and Indian falconry equipment being shown.

New forms were described by Mr. G. L. Bates, Dr. C. B. Ticehurst, Mr. Hugh Whistler, Mr. D. A. Bannerman, Mr. N. B. Kinnear, Professor Oscar Neumann, Captain C. H. B. Grant and Mr. C. W. Mackworth-Praed, Mr. Jack Vincent, Colonel R. Meinertzhagen, Mr. G. M. Mathews, Rear-Admiral Lynes, Mr. J. Delacour, Dr. Finn Salomonsen, and Dr. W. S. Stachanow.

Captain C. H. B. Grant and Mr. C. W. Mackworth-Praed contributed several notes on correct type-localities of various birds.

Mr. A. F. Griffith exhibited a specimen, secured by Major A. A. Dorrien-Smith, of the Black-billed Cuckoo (*Coccyzus erythropthalmus*), the second record for the British Isles; Dr. G. Carmichael Low showed skins of the races of Dowitcher, from Canada, for Professor Rowan; and Dr. P. R.Lowe showed the nest and eggs of a Redwing taken in Scotland.

The Annual Dinner, held in conjunction with the British Ornithologists' Union, took place this year at the Knightsbridge Hotel, where a specially large room was available for the company. Some excellent films and slides were shown—by Mr. W. E. Higham of the Short-eared Owl; by Mr. Anthony Buxton of Montagu's and the Marsh-Harrier etc.; by Mr. Ralph Chislett of the same Harriers, and of the Wood Sandpiper from Lapland; while Mr. Jack Vincent exhibited a series of slides illustrating a day in the life of a field-collector, from the Portugese East African Expedition of 1931–1932.

The Club entertained as distinguished guests during the Session Dr. H. L. Lack, Dr. T. G. Longstaff, Dr. Finn Salomonsen, and Dr. C. H. Kellaway.

G. CARMICHAEL LOW,
Editor.

London, July 1933.

BRITISH ORNITHOLOGISTS' CLUB.

(Founded October 5, 1892.)

TITLE AND OBJECTS.

The objects of the Club, which shall be called the "British Ornithologists' Club," are the promotion of social intercourse between Members of the British Ornithologists' Union and to facilitate the publication of scientific information connected with ornithology.

RULES.

(*As amended, October* 8, 1930.)

Management.

I. The affairs of the Club shall be managed by a Committee, to consist of a Chairman, who shall be elected for three years, at the end of which period he shall not be eligible for re-election for the next term; a Vice-Chairman, who shall serve for one year, and who shall not be eligible for the next year; an Editor of the 'Bulletin,' who shall be elected for five years, at the end of which period he shall not be eligible for re-election for the next term; a Secretary and Treasurer, who shall be elected for a term of one year, but shall be eligible for re-election. There shall be in addition four other Members, the senior of whom shall retire each year, and another Member be elected in his place; every third year the two senior Members shall retire and two other Members be elected in their place. Officers and Members of the Committee shall be elected by the Members of the Club at a General Meeting, and the names of such Officers and Members of Committee nominated by the Committee for the ensuing year, shall be circulated with the notice convening the General Meeting, at least two weeks before the Meeting. Should any Member wish to propose another candidate, the nomination of such, signed by at least two Members, must reach the Secretary at least one clear week before the Annual General Meeting.

II. Any Member desiring to make a complaint of the manner in which the affairs of the Club are conducted, must communicate in writing with the Chairman, who will, if he deem fit, call a Committee Meeting to deal with the matter.

III. If the conduct of any Member shall be deemed by the Committee to be prejudicial to the interests of the Club, he may be requested by the Committee to withdraw from the Club. In the case of refusal, his name may be removed from the list of Members at a General Meeting, provided that, in the notice calling the Meeting, intimation of the proposed resolution to remove his name shall have been given, and that a majority of the Members voting at such Meeting record their votes for his removal.

A Member whose name has been removed shall forfeit all privileges of Membership and shall have no claim on the Club from the date of his removal.

Subscriptions.

IV. Any Member of the British Ornithologists' Union may become a Member of the Club on payment to the Treasurer of an entrance-fee of one pound and a subscription of one guinea for the current Session. On Membership of the Union ceasing, Membership of the Club also ceases.

Any Member who has not paid his subscription before the last Meeting of the Session, shall cease, *ipso facto*, to be a Member of the Club, but may be reinstated on payment of arrears.

Any Member who has resigned less than five years ago may be reinstated without payment of another Entrance Fee.

Any Member who resigns his Membership on going abroad may be readmitted without payment of a further Entrance Fee at the Committee's discretion.

Meetings.

V. The Club will meet, as a rule, on the second Wednesday in every month, from October to June inclusive, at such hour and place as may be arranged by the Committee, but should such Wednesday happen to be Ash Wednesday, the Meeting will take place on the Wednesday following. At these Meetings papers upon ornithological subjects will be read, specimens exhibited and described, and discussion invited.

VI. A General Meeting of the Club shall be held on the day of the October Meeting of each Session and the Treasurer shall present thereat the Balance-sheet and Report; and the election of Officers and Committee, in so far as their election is required, shall be held at such Meeting.

VII. A Special General Meeting may be called at the instance of the Committee, for any purpose which they deem to be of sufficient importance, or at the instance of not fewer than fifteen Members. Notice of not less than two weeks shall be given of every General and Special General Meeting.

INTRODUCTION OF VISITORS.

VIII. Members may introduce visitors at any ordinary Meeting of the Club, but the same guest shall not be eligible to attend on more than three occasions during the Session. No former Member, who has been removed for non-payment of subscription, or for any other cause, shall be allowed to attend as a guest.

'BULLETIN' OF THE CLUB.

IX. An Abstract of the Proceedings of the Club shall be printed as soon as possible after each Meeting, under the title of the 'Bulletin of the British Ornithologists' Club' and shall be distributed gratis to every Member who has paid his subscription.

Contributors are entitled to six free copies of the 'Bulletin,' but if they desire to exercise this privilege, they must give notice to the Editor when their manuscript is handed in. Members purchasing extra copies of the 'Bulletin' are entitled to a rebate of 25 per cent. on the published price, but not more than two copies can be sold to any Member unless ordered before printing.

Descriptions of new species may be published in the 'Bulletin,' although such were not communicated at the Meeting of the Club. This shall be done at the discretion of the Editor and so long as the publication of the 'Bulletin' is not unduly delayed thereby.

Any person speaking at a Meeting of the Club shall be allowed subsequently—subject to the discretion of the Editor—to amplify his remarks in the 'Bulletin,' but no fresh matter shall be incorporated with such remarks.

X. No communication, the whole or any important part of which has already been published elsewhere, shall be eligible for publication in the 'Bulletin,' except at the discretion of the Editor; and no communication made to the Club may be subsequently published elsewhere without the written sanction of the Editor.

ALTERATION AND REPEAL OF RULES.

XI. Any suggested alteration or repeal of a standing rule shall be submitted to Members to be voted upon at a General Meeting convened for that purpose.

COMMITTEE, 1932–1933.

D. A. BANNERMAN, *Chairman.* Elected 1932.

H. F. WITHERBY, *Vice-Chairman.* Elected 1932.

Dr. G. CARMICHAEL LOW, *Editor.* Elected 1930.

C. W. MACKWORTH-PRAED, *Hon. Secretary and Treasurer.* Elected 1929.

Dr. P. H. MANSON-BAHR. Elected 1930.

Dr. A. LANDSBOROUGH THOMSON. Elected 1930.

Rev. J. R. HALE. Elected 1931.

H. WHISTLER. Elected 1932.

Officers of the British Ornithologists' Club, Past and Present.

Chairmen.

P. L. Sclater, F.R.S.	1892–1913.
Lord Rothschild, F.R.S.	1913–1918.
W. L. Sclater.	1918–1924.
H. F. Witherby.	1924–1927.
Dr. P. R. Lowe.	1927–1930.
Major S. S. Flower.	1930–1932.
D. A. Bannerman.	1932–

Vice-Chairmen.

Lord Rothschild, F.R.S.	1930–1931.
W. L. Sclater.	1931–1932.
H. F. Witherby.	1932–1933.

Editors.

R. Bowdler Sharpe.	1892–1904.
W. R. Ogilvie-Grant.	1904–1914.
D. A. Bannerman.	1914–1915.
D. Seth-Smith.	1915–1920.
Dr. P. R. Lowe.	1920–1925.
N. B. Kinnear.	1925–1930.
Dr. G. Carmichael Low.	1930–

Honorary Secretaries and Treasurers.

Howard Saunders.	1892–1899.
W. E. de Winton.	1899–1904.
H. F. Witherby.	1904–1914.
Dr. P. R. Lowe.	1914–1915.
C. G. Talbot-Ponsonby.	1915–1918.
D. A. Bannerman.	1918–1919.
Dr. Philip Gosse.	1919–1920.
J. L. Bonhote.	1920–1922.
C. W. Mackworth-Praed.	1922–1923.
Dr. G. Carmichael Low.	1923–1929.
C. W. Mackworth-Praed.	1929–

LIST OF MEMBERS.

JUNE 1933.

Acland, Miss C. M.; Walwood, Banstead, Surrey.

Acworth, Capt. Bernard, D.S.O., R.N.; 12 Tudor Street, E.C. 2.

Adams, Ernest E.; Lloyd's, Royal Exchange, E.C. 3.

Alexander, H. G.; 144 Oak Tree Lane, Selly Oak, Birmingham.

5 Alexander, W. B.; Dept. of Zoology, University Museum, Oxford.

Aplin, Oliver Vernon; Stonehill House, Bloxham, Banbury, Oxon.

Ascherson, C. S.; 15 Phillimore Gardens, Kensington, W. 8.

Aylmer, Commdr. E. A., R.N.; H.M.S. 'Marazion,' China Station.

Baker, E. C. Stuart, C.I.E., O.B.E., F.Z.S., F.L.S., H.F.A.O.U.; 6 Harold Road, Upper Norwood, S.E. 19.

10 Bannerman, David A., M.B.E., B.A., F.R.S.E. (*Chairman*); British Museum (Natural History), S.W. 7, and 7 Pembroke Gardens, Kensington, W. 8.

Barclay-Smith, Miss P.; Park Lodge, Hervey Road, Blackheath, S.E. 3.

Barrington, Frederick J. F., M.S., F.R.C.S.; University College Hospital Medical School, Gower Street, W.C. 1.

Bates, G. L.; Blasford Hill, Little Waltham, Chelmsford.

Best, Miss M. G. S.; Broadwater, Amport, Andover, Hants.

15 Blaauw, F. E., C.M.Z.S.; Gooilust, s'Graveland, Hilversum, North Holland.

Blezard, Miss Ruth; Stocks, Tring, Herts.

Boorman, S.; Heath Farm, Send, Woking, Surrey.

Booth, H. B.; "Ryhill," Ben Rhydding, Yorks.

Boyd, A. W.; Frandley House, near Northwich.

20 Bradford, A. D.; Garston House, near Watford.

Bradford, Sir J. Rose, K.C.M.G., M.D., F.R.C.P., F.R.S.; 8 Manchester Square, W. 1.

Brown, George; Combe Manor, Hungerford, Berks.

Browne, Patrick, R.E.; Firwood, Trumpington Road, Cambridge.

Bunyard, P. F., F.Z.S.; 57 Kidderminster Road, Croydon.

25 Butler, Arthur L.; St. Leonard's Park, Horsham, Sussex.

Buxton, Anthony; Horsey Hall, Gt. Yarmouth, Norfolk.

Campbell, James; Layer Marney Hall, Kelvedon, Essex.

Chapman, F. M.; American Museum of Natural History, New York, U.S.A.

Charteris, Hon. G. L.; 24 Oxford Square, W. 2.

30 Chasen, Frederick N.; Raffles Museum, Singapore.

Cheesman, Major R. E., O.B.E.; E. India United Service Club, 16 St. James's Square, S.W. 1.

Clarke, Brig.-General Goland van Holt, C.M.G., D.S.O. F.Z.S. Wiston Park, Steyning, Sussex.

Clarke, John P. Stephenson; Broadhurst Manor, Horsted Keynes, Sussex.

Clarke, Col. Stephenson Robert, C.B., F.Z.S.; Borde Hill, Cuckfield, Sussex.

35 Cleave, Henry P. O.; Mansfield House, Kendrick Road, Reading.

Cochrane, Captain Henry L., R.N. (Retd.); The Chase, Whaddon, Bletchley, Bucks.

Collier, Charles, F.Z.S.; Bridge House, Culmstock, Devon.

Conover, H. B.; 6 Scott Street, Chicago, Illinois, U.S.A.

Cox, Major-Gen. Sir Percy Z., G.C.I.E., G.C.M.G., K.C.S.I.; 25 Kensington Palace Mansions, Kensington, W. 8.

40 Cunningham, Josias; Drinagh, Kensington Road, Knock, Belfast.

Curtis, Frederick, F.R.C.S.; Alton House, Redhill, Surrey.

Daniels, Christopher; 75 Grosvenor Street, W. 1.

Deane, Robert H.; Seaford Head Golf Club, Seaford, Sussex.

Delacour, Jean; Château de Cleres (Seine-Inf.), France.

45 Delmé-Radcliffe, Lieut.-Col. A., D.S.O.; Cypress Lodge, Bridge Street, Walton-on-Thames, Surrey.

Delmé-Radcliffe, Lieut.-Col. H., F.Z.S., F.R.G.S.; c/o Lloyds Bank (Cox & Co.'s Branch), F. Dept., 6 Pall Mall, S.W. 1.

Dewhurst, Captain F. W., Royal Marine L.I.; Elmwood, North End, Hampstead, N.W. 3.

Dobie, William Henry, M.R.C.S.; 2 Hunter Street, Chester.

Duncan, Arthur Bryce; Gilchristlands, Closeburn, Dumfriesshire.

50 Duncan, Walter Bryce; Newlands, Dumfries.

Ellis, H. Willoughby, F.Z.S., F.E.S.; Speldhurst Close, Sevenoaks, Kent.

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Evans, Arthur Humble, M.A., D.Sc., F.Z.S.; Cheviot House, Crowthorne, Berks.

Ezra, A., O.B.E., F.Z.S.; Foxwarren Park, Cobham, Surrey.

55 Ferrier, Miss Judith M.; Hemsby Hall, Hemsby, Norfolk.

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Fleming, James M.; Drumwalt, Long Road, Cambridge.

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60 Foulkes-Roberts, Captain P. R.; Kwale, Warri Province, Nigeria, West Africa, and Westwood, Goring-on-Thames, Oxfordshire.

Glegg, W. E.; The House, Albion Brewery, Whitechapel Rd., E. 1.

Glenister, A. G.; The Barn House, East Blatchington, Seaford.

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65 Griffith, Arthur F.; 3 Evelyn Terrace, Brighton.

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Gyldenstolpe, Count Nils; Royal (Natural History) Museum, Stockholm, Sweden.

Hachisuka, The Marquess; Mita Shiba, Tokyo, Japan.

Haig-Thomas, Mrs. Rose; 71 Strand on the Green, W. 4.

70 Haigh, George Henry Caton, F.Z.S.; Grainsby Hall, Great Grimsby, Lincolnshire.

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75 Harrisson, Thomas H.; The Chase, Weeke, Winchester.

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80 Hope, R. F.; Herons Ghyll, Uckfield, Sussex.

Hopkinson, Emilius, C.M.G., D.S.O., M.B., F.Z.S.; Wynstay, Balcombe, Sussex.

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INGLIS, C. McFARLANE; Natural History Museum, Darjiling, India.

85 INGRAM, Capt. COLLINGWOOD; The Grange, Benenden, Cranbrook, Kent.

JABOUILLE, PIERRE; Gouvernement de la Cochin-Chine, Saigon, Indo-China.

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MATHEWS, G. M., F.L.S., F.Z.S.; Meadway, St. Cross, Winchester, Hants.

Mavrogordato, J. G.; Mariners, Westerham, Kent.

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Momiyama, Toku Taro; 1146 Sasazka, Yoyohata-mati, Tokyo, Japan.

115 Munn, P. W.; Puerto Alcudia, Majorca, Balearic Isles, Spain.

Murton, Mrs. C. D.; Cranbrook Lodge, Cranbrook, Kent.

Musselwhite, D. W.; 59 Mayford Road, Wandsworth Common, S.W. 12.

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120 Newman, T. H., F.Z.S.; Verulam, 46 Forty Avenue, Wembley Park, Middlesex.

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Pease, H. J. R.; Medmenham, Marlow, Bucks.

125 Pershouse, Major S.; c/o Lloyds Bank (Cox & King's Branch), 6 Pall Mall, S.W. 1.

Pitman, Capt. C. R. S., D.S.O., M.C., c/o The Postmaster, Livingstone, N. Rhodesia.

Player, W. J. P.; Wernfadog, Clydach R.S.O., Glamorganshire.

Popham, Hugh Leyborne, M.A.; Houndstreet House, Pensford, Somerset.

Ratcliff, F. R.; 29 Connaught Square, W. 2.

130 Rhodes, Miss G. M.; Hildersham Hall, Cambridge.

Rickett, C. B., F.Z.S.; 27 Kendrick Road, Reading, Berks.

Rivière, B. B., F.R.C.S.; The Old Hall, Woodbastwick, Norfolk.

Rothschild, Lionel Walter—Lord, D.Sc., F.R.S., Ph.D., F.Z.S. (*Chairman*, 1913–1918); Tring Park, Herts.

Sandeman, R. G. C. C.; Dan-y-parc, Crickhowell, Brecon.

135 Schauensee, Baron R. M. de; Devon, Pennsylvania, U.S.A.

Sclater, William Lutley, M.A., F.Z.S. (*Chairman*, 1918–1924); 10 Sloane Court, S.W. 1.

Scone, The Rt. Hon. Mungo David—Lord; Scone Palace, Perth.

Seth-Smith, David, F.Z.S.; Curator's House, Zoological Gardens, Regent's Park, N.W. 8.

Shipton, Wm., B.A., M.D.; 2 The Square, Buxton.

140 Simonds, Major Maurice H., Fines Baylewick, Binfield, Berks.

Sladen, Major A. G. L., M.C.; Kingswood House, The Lee, Great Missenden, Bucks.

Smalley, Frederick W., F.Z.S., Uppleby House, Parkstone, Dorset.

Snouckaert van Schauburg, Baron René Charles; Hôtel les Terrasses, Territet, Switzerland.

Sparrow, Col. R., C.M.G., D.S.O., F.Z.S., F.R.G.S.; The Lodge, Colne Engaine, Earls Colne, Essex.

145 Stares, J. W. C.; Portchester, Hants.

Stevens, Herbert; Clovelly, Beaconsfield Road, Tring, Herts.

Stoneham, Lt.-Col. H. F., O.B.E., F.E.S.; Kitale Estates, Kenya Colony, British East Africa.

Stuart-Menteth, W. G.; Bransfield, Godstone, Surrey.

Styan, F. W., F.Z.S.; Stone Street, near Sevenoaks.

150 Swynnerton, C. F. Massy; Poste Restante, Dar-es-Salaam, Tanganyika Territory, East Africa.

Taka-Tsukasa, Prince Nobusuke; 1732 Sanchome, Kami-meguro, Meguro-Ku, Tokyo, Japan.

Talbot-Ponsonby, C. G.; 5 Crown Office Row, Temple, E.C. 4.

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Thomson, A. Landsborough, O.B.E., D.Sc. (*Committee*); 9 Addison Gardens, W. 14.

155 Thorpe, W. H., M.A., Ph.D.; Jesus College, Cambridge.

Ticehurst, Claud B., M.A., M.R.C.S.; Saxon House, Appledore, Kent.

Ticehurst, N. F., O.B.E., M.A., M.B., F.R.C.S., F.Z.S.; 24 Pevensey Road, St. Leonards-on-Sea.

Tucker, B. W., B.A., F.Z.S.; 9 Marston Ferry Road, Oxford.

Turner, Miss E. L., F.Z.S.; The Half Way Cottage, 13 Storey's Way, Cambridge.

160 Turtle, Lancelot J.; Rosemount, Knock, Belfast.

Tyrwhitt-Drake, Hugh G., F.Z.S.; Cobtree Manor, Sandling, Maidstone.

Urquhart, Capt. Alastair, D.S.O., Latimer Cottage, Latimer, Chesham, Bucks.

van Someren, Dr. V. G. L.; East Africa and Uganda Natural History Society, Coryndon Memorial Museum, Nairobi, Kenya Colony, East Africa.

Vernay, A. S.; 51 Berkeley Square, W. 1.

165 Waite, Herbert William; c/o Messrs. Grindlay & Co., Ltd., Bombay.

Wallis, H. M.; 110 Kendrick Road, Reading.

Ware, R.; Leafwood, Frant, Tunbridge Wells.

Whistler, Hugh, F.Z.S., F.L.S. (*Committee*); Caldbec House, Battle, Sussex.

Whitaker, Joseph I. S., F.Z.S.; Malfitano, Palermo, Sicily.

170 White, S. J., F.Z.S.; 17 Philpot Lane, E.C. 3

Whitley, H.; Primley, Paignton, S. Devon.

Williams, Victor Owen; 6 Crown Office Row, Temple, E.C. 4.

Williamson, Sir W. J. F., C.M.G., F.Z.S.; c/o Lloyds Bank, 6 Pall Mall, S.W. 1.

Wing, J. Sladen; 21 Cheyne Gardens, Chelsea Embankment, S.W. 3.

175 Wishart, E. E.; Marsh Farm, Binsted, Arundel, Sussex.

Witherby, Harry F., M.B.E., F.Z.S. (*Vice-Chairman*) (*Chairman*, 1924–1927); 326 High Holborn, W.C. 2.

Witherington, G.; Sumner Plat, Hayward's Heath.

Wood, Dr. Casey A., M.D.; c/o The Library of Ornithology, McGill University, Montreal, Canada.

Workman, William Hughes, F.Z.S.; Lismore, Windsor Avenue, Belfast.

180 Worms, Charles de; Milton Park, Egham, Surrey.

Total number of Members 180

NOTICE.

[Members are specially requested to keep the Hon. Secretary informed of any changes in their addresses, and those residing abroad should give early notification of coming home on leave.]

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Bird Room

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXII.

The three-hundred-and-fifty-seventh Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, October 12, 1932.

Chairman : Mr. D. A. Bannerman.

Members present :—Miss C. M. Acland ; W. B. Alexander ; E. C. Stuart Baker ; F. J. F. Barrington ; Miss M. G. S. Best ; S. Boorman ; Sir J. Rose Bradford ; P. F. Bunyard ; Hon. G. L. Charteris ; R. H. Deane ; J. Delacour ; A. H. Evans ; A. Ezra ; Miss J. M. Ferrier ; Miss E. M. Godman ; Col. A. E. Hamerton ; Dr. J. M. Harrison ; R. E. Heath ; Dr. E. Hopkinson ; N. B. Kinnear ; Miss E. P. Leach ; Dr. G. Carmichael Low (*Editor*) ; Dr. P. R. Lowe ; N. S. Lucas ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; T. H. McKittrick, jun. ; J. H. McNeile ; Lt.-Col. H. A. F. Magrath ; Dr. P. H. Manson-Bahr ; T. H. Newman ; H. L. Popham ; C. B. Rickett ; W. L. Sclater ; Major A. G. L. Sladen ; Dr. A. Landsborough Thomson ; Dr. C. B. Ticehurst ; B. W. Tucker ; Miss E. L. Turner ; H. M. Wallis ; H. F. Witherby (*Vice-Chairman*) ; C. R. Wood ; C. G. M. de Worms.

Members of the B.O.U. :—C. Daniels ; W. K. Dods ; H. B. Elton ; T. S. Gilmour ; Miss M. Knobel ; Miss C. Longfield ; W. P. Lowe.

Guests :—E. S. Bailey ; Mrs. D. A. Bannerman ; H. A. Gilbert ; Miss C. E. Godman ; R. S. Jenyns ; A. G. R. Russell.

[*October* 31, 1932.]

Annual General Meeting.

This was held at Pagani's Restaurant, Great Portland Street, immediately preceding the Dinner. Mr. W. L. Sclater, in the absence of Major S. S. Flower, the Chairman, took the Chair. The Meeting was well attended, over thirty Members of the Club being present.

The Minutes of the last Meeting were read and confirmed. Arising out of these, Dr. Carmichael Low said that he had published an agendum with each of the numbers of the 'Bulletin' of the last Session, and he wished to know the feeling of Members as to the value of this. Several of those present said it had proved most useful to them, and thought it certainly should be continued. Dr. Low said he would therefore do so.

Mr. Mackworth-Praed, the Hon. Secretary and Treasurer, presented the Financial Statement and Secretary's Report for the past Session, 1931-32. He said that the position of the Club was still satisfactory, in spite of the financial depression prevailing throughout the world. Several Members, including Lord Grey, had resigned, while four new Members had joined. He had to announce with regret that two Members of the Club had died, Mr. Arnold H. Meiklejohn and Dr. Francis G. Penrose. The Meetings of the Club for the past Session had been very well attended and formed a record, no fewer than 558 members and guests having been present. The Rev. J. R. Hale proposed, and Mr. H. F. Witherby seconded, the adoption of the Report. This was carried unanimously.

The Secretary read a letter from Major Flower saying that as he would be unable to attend any further meetings of the Club this winter, owing to ill-health, he would have to resign his position as Chairman. The Meeting accepted this with great regret, and passed a motion of sympathy with Major Flower, at the same time expressing the hope that he would soon be restored to health and would soon be able to attend the meetings again. On the recommendation of the Committee, Mr. David A. Bannerman was elected Chairman in place of Major Flower.

Mr. H. F. WITHERBY was elected Vice-Chairman of the Club in place of Mr. W. L. Sclater, whose period of office had terminated.

Mr. C. W. MACKWORTH-PRAED was re-elected Honorary Secretary and Treasurer.

Mr. HUGH WHISTLER was elected a Member of the Committee in place of Mr. F. J. F. Barrington, retiring through seniority.

Under General Business Mr. P. F. BUNYARD said that he thought all members of the Club were entitled to a copy of the new Index of the 'Bulletin' free of charge.

Mr. STUART BAKER said that the new index of 'The Ibis' was being sold to members of the B. O. U. at a reduced rate, and that he thought the price (£1 1*s.* 0*d.*) for the new Index of the 'Bulletin' was too much.

In answer to this Dr. CARMICHAEL LOW drew attention to the great cost of the printing and publication of the Index.

The matter was finally left to the Committee to decide upon.

This concluded the business, and those attending the Meeting then adjourned to the Dinner.

Committee, 1932–1933.

Mr. D. A. BANNERMAN, *Chairman* (elected 1932).
Mr. H. F. WITHERBY, *Vice-Chairman* (elected 1932).
Dr. G. CARMICHAEL LOW, *Editor* (elected 1930).
Mr. C. W. MACKWORTH-PRAED, *Hon. Secretary and Treasurer* (elected 1929).
Dr. P. H. MANSON-BAHR (elected 1930).
Dr. A. LANDSBOROUGH THOMSON (elected 1930).
Rev. J. R. HALE (elected 1931).
Mr. H. WHISTLER (elected 1932).

BRITISH ORNITHOLOGISTS' CLUB.

Financial Statement for the 12 *months September* 1, 1931, *to August* 31, 1932.

12 m'ths ended Aug. 31, 1931. £ s. d.		£ s. d.	£ s. d.
	To Balance in Hand, 1st September, 1931:—		
82 12 11	Cash at Bank, Current a/c	58 10 3	
614 13 9	Do. Deposit a/c	731 0 1	
0 17 1	In Hands of Treasurer ...	4 13 4	794 3 8
9 0 0	,, Entrance Fees of 4 New Subscribers	4 0 0	
184 16 0	,, Subscriptions—173 Members	181 13 0	
	,, Subscription in advance 1932–33	1 1 0	186 14 0
74 9 5	,, Sales of 'Bulletin'		34 10 4
16 6 4	,, Bank Interest		20 1 9
			£1,035 9 9
	To Balance brought down		847 6 0
£982 15 6			£847 6 0

12 m'ths ended Aug 31, 1931. £ s. d.		£ s. d.	£ s. d.
138 7 11	By Printing and Distribution of Publications and 'Bulletin'		139 15 5
9 17 0	,, Hire of Lanterns at Meetings		28 2 0
5 5 0	,, H. B. Usher for compiling and arranging Index to 'Bulletin' B.O.C. 1931–32 .		5 11 9
22 10 0	,, Contribution to 'Zoological Society Record'		—
12 11 11	,, Miscellaneous Expenditure, including Audit Fee, Printing Stationery, and Postages		14 14 7
188 11 10			188 3 9
	By Balance carried down		847 6 0
			£1,035 9 9
	By Printing and Publication of General Index		148 13 6
	,, Balance in Hand, August 31, 1932:—		
58 10 3	Cash at Bank, Current a/c	46 16 5	
731 0 1	Do. Deposit a/c	650 0 0	
4 13 4	In Hands of Treasurer ...	1 16 1	698 12 6
£982 15 6			£847 6 0

C. W. MACKWORTH-PRAED, *Treasurer.*

We have compared the foregoing Statement with the Books and Vouchers of the British Ornithologists' Club for the year ended August 31, 1932, and certify it to be in accordance therewith. We have also verified the Cash at Bank.

W. B. KEEN & CO.,
Chartered Accountants.

23 Queen Victoria Street,
London, E.C. 4.
September 2, 1932.

Mr. D. A. Bannerman read for Mr. G. L. Bates the following account of a journey made by the latter to the French Niger and French Sudan in 1931–1932 :—

" The expedition (not including the initial journey through Nigeria or the last stage by train to Dakar, since in those parts no birds were collected), lay entirely in French Niger, north of Nigeria, and farther west in French Sudan, following the Niger River westward, with excursions northward into the Sahara.

" The first place where I spent much time was Tawa (Tahoua), due north of Sokoto. Tawa, the northernmost settled spot in that part of the country, is so surrounded by dunes and wind-driven sand as to appear to be in the desert ; yet it has rain enough in summer to pack the sand, and to bring to maturity a crop of millet, while even a few miles farther north rain is so uncertain that no millet is sown, and there are no inhabitants except nomads, and no names to be put on maps except those of wells.

" From Tawa I made my first excursion (in May) into the desert, 100 miles north, to some wells called Tilliya (or Tilia). Afterwards (in July) I travelled west from Tawa overland 300 miles to the Niger, through dry country, bare and overgrown with bushes, which supports a few scattered inhabitants. The subsequent journey (in July and August) up the Niger, as far as Burem, was made by canoe, with many stops for bird collecting. From Burem another excursion into the desert was made following the road or track that goes to Kidal, but not so far, and the whole month of September and a few days more was spent encamped under or beside a little Acacia-tree, near Taberrishat well, at nearly 18° N. lat., or a little farther north than Agades, in Aïr.

" Going again up the Niger to Timbuktu I once more spent over a month there, with a brief excursion into the desert in November, reaching a point at nearly 18° N. lat., at a well called In Alay (or In Alahy). From Timbuktu I went by steamboat to Mopti, and was there directed to an ideal place for getting birds, in the very rough country away from the river, 30 miles to the eastward. I stayed there the whole of December and part of January, after which a month spent in canoe-travel brought me to Kulikoro (the railhead) where I had collected in 1928.

" The ornithological interest of my journey lies along two different lines. I was fortunate enough (because I collected in almost virgin country, as was all that territory lying between Buchanan's localities in and south of Aïr, and the far-western coastal country of Senegal) to extend greatly the known ranges of a good many species, and to find some geographical variations that, in my opinion, justify the making of new subspecies. Of these there may, after further study, prove to be a few more besides the half-dozen shown at this meeting and the Nightjar already described by Mr. Bannerman (Bull. B. O. C. lii. 1932, p. 147).

" The most interesting thing was the study I could make, in crossing and re-crossing the line (which marks the northern limit of human settlement and must be regarded as the southern limit of the Sahara) of the changes and contrasts in the bird-life on the two sides of the line. The desert, for a land of glaring heat and dry atmosphere, and total absence of surface-water during more than a few days in the year, was surprisingly well supplied with vegetable and animal life. Of the plants and tufted grass, many were the same as those of the Algerian Sahara, and must be distributed more or less over the whole desert in between. The same is true of the common birds living and nesting in the thorny bushes, such as *Lanius excubitor*, *Argya fulva*, and *Passer simplex*, which are the same as those of the Algerian and Tunisian border of the Sahara; and they are doubtless found more or less in all the country between. These birds, rather than the many Palæarctic winter migrants, or the many Ethiopian birds that wander north into the desert, wherever there are trees, and especially in that tract having a better water-supply, Aïr, are the true birds of the Sahara. They seem to extend over the Sahara to its southern limit, and as their affinities, on the whole, are more Palæarctic than Ethiopian, they seem to carry the boundary of the former region right down to the southern edge of the Sahara.

" The permanent moisture that exists deep down under the sandy surface and keeps the plants alive is the indirect source of all the water which any desert animal or bird can get for most of the year. There is not only no surface-water, but the air is too dry for the formation of dew."

The following are Mr. Bates's descriptions of his new birds :—

1. **Onychognathus morio modicus,** subsp. nov.

Description.—This new race of the Redwing Starling, a species which varies geographically, not in colour of plumage, but in size and proportions of wing and tail and bill (see Sclater, Bull. B. O. C. xlv. 1924, p. 5), has the bill about as in *O. m. ruppellii* * of Abyssinia, and not nearly so deep and stout as in *O. m. neumanni* of Northern Nigeria; while the full-grown and perfect tail is proportionally shorter than in any other race, the wing being of nearly the same length as in the two races just mentioned.

Measurements.—Thirteen specimens of both sexes (sexes alike in size) : wing 150–163 ; tail 137–150 ; tarsus 35·5–38 ; bill 28–31 mm.

Distribution.—The rocky cliffs on or near the Upper Niger in French Sudan, between 12° and 15° N. lat.

Type.—In the British Museum, ♂ adult, Kulikoro, French Sudan, July 9, 1928, collected by G. L. Bates, no. 9686. Brit. Mus. Reg. no. 1930.3.4.358.

Remarks.—Eight additional specimens from my recent trip, with perfect tails, confirm what is said in my 'Handbook' (p. 519) about those previously obtained. I have measured again also all the specimens in the British Museum of *O. m. ruppellii* and *neumanni*.

2. **Lagonosticta rubricata virata,** subsp. nov.

Description.—Male not noticeably different from the male of *L. r. polionota*, but female very different from the female of *L. r. polionota* from the Gold Coast and Sierra Leone, being almost as red beneath as the male.

Distribution.—Found as yet only in rocky places near the Upper Niger, in the region of Mopti and Kulikoro, French Sudan.

Type.—In the British Museum, ♀ adult from Kulikoro, French Sudan, June 25, 1928. Collected by G. L. Bates, no. 9648. Brit. Mus. Reg. no. 1930.3.4.331.

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* *ruppellii* (Verreaux) is the original spelling, and is used by Sclater in his 'Systema.'

Remarks.—*Lagonosticta r. polionota*, inhabiting the grassier parts of the West African coastal region, has, like all hitherto known races of *L. rubricata*, a distinctly different female, with buffy brown breast. When I said in my 'Handbook,' under that subspecies, "Female scarcely different from the male," I was misled by using my own specimens of what I now name as a new race *L. r. virata*. Besides the three female specimens obtained on my 1928 journey, I have on my recent visit secured another female. I examined the organs of all these myself, and am sure about their sex.

3. **Mirafra rufa nigriticola,** subsp. nov.

Description.—Much darker in all the light parts of the plumage—that is, the sides of each feather and the whole plumage of the underside—than in *M. rufa rufa* from Darfur. Bill also noticeably longer and slenderer.

Measurements.—Wing, ten males 84·5—89·5, one female 86·5 ; tail 60–68 ; tarsus 21–24·5 ; bill 14·5–16 mm.

Distribution.—Ten of my twelve specimens were obtained in the vicinity of Tawa (or Tahoua) in French Niger, at the edge of the Desert, north of Sokoto. All were found either on the areas of bare black rock which are frequent there or on bushes growing near the edges of these rocks. They were singing and giving other indications of breeding there. Two more specimens, an adult and a young one, were shot some 200 miles farther west, nearer the Niger ; and it happens that this one adult from farther west is lighter-coloured than the rest.

Type.—In the British Museum, ♂ adult ; from Tawa, French Niger, May 31, 1931, collected by G. L. Bates, no. 10555. Brit. Mus. Reg. no. 1932.8.6.5.

4. **Saxicola torquata moptana,** subsp. nov.

Description.—A form of the Stonechat having the following combination of characters not found in any other:—Both sexes have : (1) Size small ; (2) axillaries and under wing-coverts mostly white. The adult male has : (1) Much white on the sides of the neck, forming a collar nearly complete, with a gap of only about 10 mm. ; (2) most of the breast and belly white, leaving the chestnut patch on the upper breast small; (3) the chestnut patch of a pale shade. The female is of a general light colour.

Measurements.—Four specimens: wing, males 64, 65, females 61, 63; tail 46–50; tarsus 20–21·5; bill 11–12 mm.

Distribution.—The alluvial flats, submerged at high water and covered with coarse grass, bordering the Upper Niger in the vicinity of Mopti. The range of this race cannot connect anywhere with that of *S. t. salax*, the race which it most resembles.

Type.—In the British Museum, ♂ adult; from Mopti, French Sudan, Jan. 13, 1932. Collected by G. L. Bates, no. 11327. Brit. Mus. Reg. no. 1932.8.6.4.

5. **Hirundo lucida clara,** subsp. nov.

Description.—Differing from *H. lucida lucida* in having the throat and the middle of the crop region of a much lighter shade of chestnut colour. Size in the few specimens measured a little less.

Measurements.—Wing in two males and two females (sexes alike in size) from French Upper Volta, 107–111·5 mm.; in three Timbuktu specimens with worn plumage, about 105 or 106 mm. Twelve Senegal, Gambia, Casamance, and Portuguese Guinea specimens of *H. lucida lucida* measure: wing 109–119 mm.

Type.—In the British Museum, ♂ adult, from 70 miles east of Wagadugu, Upper Volta, May 20, 1928. Collected by G. L. Bates, no. 9535. Brit. Mus. Reg. no. 1930.3.4.104.

Distribution and Remarks.—The species called *Hirundo lucida* was known only as found in the extreme western coastal part of Africa, from Senegal to Portuguese Guinea, until on my trip through West Africa I got four specimens from French Upper Volta. I only recently noticed, after getting four more specimens at Timbuktu, the difference in colour between birds from the coastal region and those from the far interior. All the old specimens from the coastal region, together with my recent one from Sierra Leone (see Ibis, 1932, p. 218), alike have the very deep dark chestnut colour, different from my specimens from the far interior. Of the latter, the Upper Volta ones are in new plumage, while the Timbuktu ones are in very old and bad plumage, and their extreme paleness is no doubt partly due to the bleaching effect of the fierce Timbuktu sunlight. But in new plumage the Timbuktu ones were very like the Upper Volta ones.

6. **Charadrius marginatus russatus,** subsp. nov.

Description.—Plumage with more rust-colour even than in the West African coast birds that have usually been called *C. m. pallidus* (see below), and with this colour of a brighter tone, even in feathers that are old and worn.

Measurements of the four specimens.—Wing 100–101; tail 44–48; tarsus 23–26 mm.

Distribution.—The sand-banks of the Upper Niger, from the vicinity of Gao to that of Bamako.

Type.—In the British Museum, ♀ adult: from the Niger River, near Kulikoro, French Sudan, February 13, 1932. Collected by G. L. Bates, no. 11426. Brit. Mus. Reg. no. 1932.8.6.2.

Remarks.—The White-fronted Sand-Plover has hitherto been found in West Africa only on sea-beaches and on banks of rivers near their mouths, not far inland.

Nomenclature of the Races of *Charadrius marginatus.*

The known races of White-fronted Sand-Plover are :—

(1) *C. m. marginatus.* Coasts of South Africa. With no rust-colour at all in plumage.

(2) *C. m. tenellus.* Coasts of East Africa and Madagascar. With a slight rusty tinge.

(3) *C. m.* "*pallidus.*" Coasts of West Africa as far south as the Congo (Chinchoxo). A little more rusty.

(4) *C. m. russatus.* Upper Niger River With bright rusty plumage.

An examination of the type of Strickland's *Charadrius pallidus*, which is at Cambridge, shows that it is merely a pale and grey immature or winter specimen of *C. marginatus*, collected by Andersson along with some typical specimens of *marginatus.* How Sharpe, in the 'Catalogue of Birds' (xxiv. p. 284), came to regard it as a winter specimen of a separate species inhabiting the same locality and as the type of the form which he would otherwise have called *tenellus*, need not be considered here. After I had become convinced of the identity of *pallidus* with *marginatus* I discovered that Gurney, in Andersson's 'Birds of Damaraland,' had concluded the same thing (p. 273, footnote). Reichenow also suspected it, and on that account used the name *tenellus* instead of the older one of *pallidus* for the united East and West Coast forms, which he did not separate (see 'Vögel Afrikas,' i. p. 170, footnote).

Since the name *pallidus* cannot be applied to the somewhat rusty West African coast race, we must use a new name, and I propose to call it

7. **Charadrius marginatus hesperius,** nom. nov.

Type.—In the British Museum, ♀ adult. Collected by Willoughby P. Lowe, January 5, 1911, Nana Kru, Liberia. Brit. Mus. Reg. no. 1911.12.18.111.

Note.—The name *heywoodii* is given in the synonymy, or in footnotes, in several books, as applied to the West African coast race of this species, and a specimen in the British Museum has written on the label "Type of *Charadrius heywoodii* Gray." No description, however, seems ever to have been published.

The name "*Hiaticula heywoodii*, or Nun River Plover," does occur as a *nomen nudum* in Allen and Thomson's 'Narrative of the Expedition to the River Niger in 1841,' vol. i. p. 167 (date of publication of book, 1848). This seems to be the only occurrence of the name except where it is given, as stated above, by several authors, in the synonymy of the White-fronted Sand-Plover. The reference, however, is always given incorrectly as vol. ii. p. 50.

8. **Glareola cinerea colorata,** subsp. nov.

Description.—Like *G. c. cinerea*, but the pale rufous nuchal collar much wider and more conspicuous, and the whole breast strongly tinged with pale rufous instead of being merely slightly washed with rufous-buff.

Measurements.—Seven specimens (sexes of the same size): wing 142–153 mm. This is a trifle more than the wing-length in the typical form from the Lower Niger, Benue, and Shari Rivers, though not so much less, as a comparison with the measurements published in my 'Handbook' would indicate, since the birds used for the measurements there were under the average. Other measurements exactly as for *G. c. cinerea.*

Distribution.—The sand-banks of the Niger between Mopti and Kulikoro in French Sudan.

Type.—In the British Museum, ♂ adult; from the Niger River between Segu and Kulikoro, French Sudan, February 8, 1932. Collected by G. L. Bates, no. 11410. Brit. Mus. Reg. no. 1932.8.6.3.

9. **Columba livia lividior,** subsp. nov.

Description.—Like *C. l. gymnocyclus* in the characters of the white rump sharply contrasting with the dark base of the tail, and in the wide ring of bare red skin round the eye; but unlike it in general colour of plumage, which is not so remarkably dark or blackish slate-colour, but much lighter and bluer, approaching that of *C. livia livia.*

Measurements.—Four specimens: wing 203–211; tail 100–105; tarsus 27–29; bill 20–21 mm.

Distribution.—Rock-Doves were seen by me at one locality only, the rocky cliffs or palisades in the very broken and hilly country east of Mopti, French Sudan. The specimen collected by Boyd Alexander at Gambaga in the north of the Gold Coast Colony, hitherto referred to *C. l. gymnocyclus,* is more like my new specimens.

Type.—In the British Museum, ♂ adult; from Fiko, 30 miles east of Mopti, French Sudan, January 9, 1932. Collected by G. L. Bates, no. 11320. Brit. Mus. Reg. no. 1932.8.6.1.

Mr. W. L. SCLATER exhibited an example of *Lampribis olivacea akleyorum* obtained by Mr. R. E. Moreau in the Amani Mountains in Tanganyika Territory. This Ibis was first obtained by Mr. Carl Akeley, the well known taxidermist and collector, on the slopes of Mt. Kenya in 1910.

Since then several additional examples have been obtained on the same mountain, and it is also said to be found on Mt. Elgon and in the Aberdare Mountains; there are two examples in the British Museum, a female collected by Mr. Allan Insole in 1927 and a male obtained by

Mr. R. Hayman, who accompanied Lord Howard de Walden's expedition to Central Africa last year, both on Mt. Kenya.

Mr. Moreau's example extends the range of this Ibis by several hundred miles in a south-east direction to within sight of the Indian Ocean.

It is a male, and was shot on a rock by the side of a stream in the foothills of the Amani Range at an elevation of only 500 feet on July 12, 1932.

Mr. Moreau's example has been compared with those from Mt. Kenya, and it was found that it agrees very well with the one obtained by Mr. Hayman, which is also a male, but it is a good deal larger than the female collected by Mr. Insole, and has a good deal more pink sheen on the upper part of the wing.

Dr. Percy R. Lowe exhibited a fossil Ostrich egg which had been found in the loess of North China, on the borders between Honan and Shensi. It had recently been presented to the British Museum by Mr. C. A. E. Carr, an American citizen, and it had the distinction of being the largest egg of this kind which had been recorded up to the present time. The equatorial circumference was 515 mm., the polar diameter 196 mm., while the equatorial diameter measured 160 mm. The next largest record from the loess known to the exhibitor was contained in a series of eighteen eggs which had been examined and measured by Andersson ("Essays on the Coenozoic of N. China," Mem. Geol. Surv. China, ser. A, no. 3, 1923). The polar diameter of this egg measured 186 mm., its equatorial circumference 492 mm.* Mr. Carr's egg was in a perfect condition of preservation, and without a hole or blemish of any kind. The shell had, of course, become completely mineralized. These Ostrich eggs had been found in the loess at various depths, and were usually discovered in making excavations or as the result of the action of rivers, which, in places, had cut down through the loess to a depth approaching one hundred or more feet.

Andersson had recorded the interesting fact that in about every second find of these eggs of the loess more than a single specimen had been discovered, while in the very first find recorded by him " four eggs lying close together and probably indicating an old bird's nest " are mentioned (*loc. cit.* p. 55). It was curious, however, to note that, although this "drowning" of nests and eggs by the wind-swept loess-storms seems to have been a common occurrence, no osseous remains of the Ostrich which lived at that epoch have as yet been discovered.

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* The corresponding measurements of an egg of *Struthio camelus* from Nigeria (Brit. Mus. Reg. no. 1899.7.23.1) were 415, 154, and 129 mm.

He said he had been constrained to call the Ostrich which had laid the eggs in the Chinese loess *Struthio anderssoni* ('Palæontologica Sinica,' 1931, ser. C, vol. vi. fasc 4, p. 28), to distinguish it from Brandt's fossil Ostrich (egg) which had been found in south-east Russia, and to which Brandt had given the name of *Struthiolithus chersonensis*. He had given his reasons for this action in the publication quoted.

Dr. Lowe also exhibited the cast of a large portion of the pelvis of a fossil Ostrich which had been found at T'ai Chia Kou, near Pao Te Hsien, in north-west Shansi, on the Yellow River. The original fossil had been found by Andersson and sent to Professor Wiman of Upsala, who had remitted it to the exhibitor for description (*loc. cit.* pp. 5–24). The fossil had been taken from a stratum of deep red *Hipparion* clay beneath the overlying loess. Other fossil remains found in the same stratum included, among others, fragments belonging to *Mastodon*, *Stegodon*, *Elephas*, *Aceratherium*, *Sinotherium*, and *Machairodus*. This is now regarded by palæontologists as a Pontian (Lower Pliocene) fauna.

The characteristic presence of the remains of *Hipparion* enabled us, he said, to conjure up a picture of the time when the Ostrich scoured the plains of Central Asia, from China to the Mediterranean (Pikermi) in company with the three-toed horse (*Hipparion*), just as in recent times, far away in Africa, the present-day Ostrich runs with the zebra. It was interesting to note that, as far as he was able to conclude from the material at his disposal, the present-day Ostrich was generically identical with the Chinese Pontian Ostrich, although such a vast time had elapsed since the period under discussion.

These recent discoveries of Eurasiatic struthious remains had obviously and enormously extended our view of the distribution in time and space of the Ostrich, and were of immense interest as bearing on the problem of the status of the struthious birds and the still vexed question as to whether they are degenerate or the specialized survivors of an early non-volant stock.

Mr. P. F. Bunyard exhibited a remarkably beautiful and exceptionally heavily pigmented clutch of five eggs of the Kestrel (*Falco t. tinnunculus*), taken by Mr. Percy W. Harvey near Croydon on May 4, 1907.

These eggs, he said, had only recently been added to his collection, though he had known them since they were taken. Unlike most eggs of the Kestrel they have retained their richness of coloration. In the nature and distribution of the pigment they closely resemble certain forms of those of the Honey-Buzzard (*Pernis a. apivorus*).

Three of the eggs have the markings confluent at the large ends and the other two at the small ends ; in those parts the pigment almost completely conceals the pure white ground-colour. In some cases the markings are sharply defined, and in others blurred. Where the pigment is rich, *i. e.*, thickly superimposed, the coloration is brownish-black, and where thinner dark reddish-brown.

In size they are above the average. The average weight is 1·572 mg., which is above Rey's average 1·555 mg., due to some extent to the thickly superimposed pigment, the most heavily-marked egg weighing 1·636 mg. He also exhibited eggs of the Honey-Buzzard for comparison.

Dr. C. B. Ticehurst forwarded the following communications :—

(i.) In spite of Hume's very decided opinion (' Stray Feathers,' vii. pp. 517–8) that *Fringilla melanictera* Gmelin is not the bird we know as *Melophus melanicterus*, the name has been used continuously. Gmelin (Syst. Nat. i. p. 910) gave this name to the bird described by Latham (Syn. iii. p. 268), who took his description from the plate in ' Planches Enlum.' of Daubenton, no. 224, fig. 1, which was the " Moineau de Macao " of Buffon (Ois. iii. p. 486). No one reading Latham's and Gmelin's description and examining the plate in the

'Planches Enlum.' could aver that they apply to the Crested Bunting of India. The plate depicts a black bird with chestnut edges to the wings and tail and white spots on the belly, and it is said to be 4½ inches long and the size of a Linnet. It is evidently a *Hypochera*, possibly *H. funerea*, or some allied species, from Africa.

The name *melanicterus* should be discarded, and in its place *Emberiza lathami* Gray (Zool. Misc. p. 2, Feb. 19, 1831—China and India) should be used, and will now become *Melophus lathami* (Gray). Type in the British Museum, collected by J. R. Reeves at Canton.

(ii.) In the 'Fauna of British India,' Birds, ed. ii., the names given to birds by McClelland have all been attributed to Horsfield, erroneously as it seems. McClelland, who was an Assistant Surgeon in the service of the East India Company, was sent with a deputation to Assam to investigate the tea-plant. On his return to Calcutta he sent home his collection of birds and animals, together with a descriptive catalogue, expressing the wish that this latter should be revised. This revision and the examination of the collection was undertaken by Horsfield, and on October 22, 1839, he communicated this Catalogue to the Zoological Society of London. The author, on the title-page of author's "separates," is McClelland. In the introduction Horsfield said :—"The following catalogue now exhibits Mr. McClelland's collection, with those alterations which the progress of discoveries required, and with a partial modification of the arrangement ; and in performing this task the only object has been to secure to Mr. McClelland the discoveries he has made. . . ."

Moreover, in a footnote under *Macacus assamensis*, it is stated that the names in the paper where no authority is given (twenty-three in number), are those of McClelland, and they appear under McClelland's name in Horsfield and Moore's 'Catalogue of Birds in the Museum of the East India Company.'

Furthermore, in two cases where McClelland had missed naming two novelties, Horsfield names them, and they appear in McClelland's Catalogue as *Sciurus McClellandii* Horsfield and *Hypsipetes McClellandii* Horsfield, thus confirming that the other names are McClelland's.

According to the International Rules of Zoological Nomenclature (Article 21), "the author of a name is that person who first publishes the name with a description . . . unless it is clear from the contents of the publication that some other person is responsible for the said name *and* . . . its description." In some of the above cases Horsfield *may* have been responsible for the descriptions, but was certainly *not* responsible for the names ; therefore all the names should be attributed to the author, that is, McClelland.

Dr. C. B. Ticehurst also exhibited some breeding Redshanks, and made the following remarks :—

I have for some time suspected that the Redshank which breeds in Britain is not the same as the typical form from Sweden. The difference, so far as I have been able to make out, can only be seen in the breeding-season; whereas the Norwegian birds, of which I have seen five, may be said to have a very full breeding dress—that is to say, they are heavily spotted and streaked below, and barred with rufous-buff and black above,—the British bird shows these characters in a very much less degree. To confirm my suspicions as to these distinctions I sent some British breeding birds to Prof. Lönnberg, asking him to compare them with Swedish topotypes. His reply was that the British birds were quite distinct on the characters I had pointed out. To put the differences in a sentence, the northern birds moult into a full and distinct breeding dress, the British birds do not. On further search it became apparent that the question was not entirely one between the British and the Scandinavian birds, as there is in the British Museum a breeding bird from Hungary which is exactly like the British bird. So that probably it is really a question of a northern and a southern race. For the northern one it is quite clear that *Tringa totanus totanus* Linnæus is the correct name.

Bewick, in his 'History of British Birds' (ii. 1805, pp. 113–115), described what he called the Red-legged Sandpiper as *Tringa erythropus* from breeding specimens obtained in Rippengale Fen, Lincolnshire, on May 14, 1799, by Major Dilke, "who pointed out several leading features of these birds in which they differ materially from *Scolopax calidris* Linnæus." *Tringa erythropus*, of course, cannot stand for this bird, and Rennie, in Montagu's 'Ornithological Dictionary,' p. 412 (1831), seems to have realized this, as he there names the Red-legged Sandpiper of Bewick as *Totanus bewickii.*

The name for the southern bird then will be

Tringa totanus bewickii (Rennie).

Type-locality.—Lincolnshire, England.

We recognize a northern and a southern race of Golden Plover on much the same grounds—completeness and incompleteness of summer dress—and, moreover, in other parts of the world such differences are held as valid ones for the recognition of races. Therefore we cannot consistently set aside the southern race of the Redshank.

Dr. C. B. TICEHURST forwarded the following descriptions of new Indian forms :—

1. **Stachyridopsis rufifrons pallescens,** subsp. nov.

Description.—Paler and greyer, less brown above ; paler below than *S. rufifrons rufifrons.*

Type.—In the British Museum. ♀, Gamon Chaung, Sandoway District (500 feet), Arakan. Collected by Messrs. Villar and Henrichs, February 9, 1930. Brit. Mus. Reg. no. 1932.10.20.1.

Remarks.—This single bird differs markedly from *S. rufifrons rufifrons* (type and series examined), and still more so from *S. rufifrons obscura* (type and two topotypes examined).

2. **Drymocataphus tickelli grisescens,** subsp. nov.

Description.—Paler and greyer above ; much paler below and on flanks (pale cream-colour) than *D. tickelli tickelli.*

Type.—In the British Museum. ♂, Nyaunggyo stream, Taungup–Prome cart-road, Arakan Yoma, 2500 feet. Obtained by Mr. J. K. Stanford, April 13, 1929. Brit. Mus. Reg. no. 1932.10.20.2.

Remarks.—I have had these two birds by me for over two years, partly to see if any change of colour would take place (since birds of these genera seem liable to this), and partly in the hope that further specimens might materialize. No change of colour is perceptible, and it seems unlikely that more specimens will be obtained for some time. I have less hesitation in calling attention to these forms by naming them, since they differ in the same qualitative respects from their nearest allies, as *Alcippe nepalensis stanfordi*, *A. poioicephala phayrei*, and *Anthipes monileger gularis*—all from the Arakan Yomas—do from their nearest allies. Large series of *Drymocataphus tickelli tickelli* and *D. t. assamensis* examined and also the types of *D. fulvus* (Karennee), *D. minor* (Tenasserim), *D. garoensis* (Garo Hills) (all of which are the same as *D. tickelli*), and of *D. olivaceus* (Tonkin).

3. **Criniger tephrogenys robinsoni**, subsp. nov.

Description.—Differs from *Criniger tephrogenys griseiceps* in having less yellow underparts, more olive, less green on the mantle, and the head is concolorous with the mantle.

Distribution.—N. Tenasserim (Yea, Amherst, Moulmein).

Type.—In the British Museum. Yea, Tenasserim. Collected by W. Davison on March 27, 1874. Brit. Mus. Reg. no. 886 ~~1926~~.9.1.1509.

Remarks.—Three specimens examined from the above localities. These birds differ from *Criniger gutturalis ochraceus*, which occurs also at Yea, in being more olive, not so grey above, and in having more yellow on the abdomen. From *Criniger tephrogenys tephrogenys* they differ in having the head concolorous with the mantle and having paler under tail-coverts. *Robinsoni* cannot be a race of *gutturalis* or of *flaveolus*, as forms of each occur in the same area. So also *griseiceps* cannot be a race of *flaveolus*, as *C. flaveolus burmanicus* occurs in its area. It seems that we must regard *robinsoni* as a connecting race between *griseiceps* and *tephrogenys*. The late Mr. H. C. Robinson first discriminated this new form, but never published it nor placed it under any definite species, when he was working at this group shortly before his death.

4. An examination of the Black Drongos obtained recently in Madras shows that both winter and summer birds there

are the same. As this form cannot be placed with the northern birds on the one hand, nor with the Ceylon bird on the other, I propose to call it

Dicrurus macrocercus peninsularis, subsp. nov.

Description.—Smaller than *D. m. albirictus* and larger than *D. m. minor.*

Measurements.—Adults (Madras). Wing, ♂♀, 130–145; tail 135–161; bill from skull 23–26 mm.

Distribution.—Madras (Trichinopoly, Salem, Madras City, S. Cuddapah, Kurnool, Godaveri Delta); Hyderabad State; S. Central Provinces; Travancore.

Type.—In the British Museum. Madras City, May 7, 1931. Collected by the Madras Museum. Brit. Mus. Reg. no. 1932.10.19.1.

Remarks.—Adults examined: 20 from Madras, 9 from Hyderabad, 9 from S. Central Provinces, 2 from Travancore. Compared with 18 from Bengal, 7 from Nepal, 13 from N.W. Himalayas, 18 from Punjab, 10 from United Provinces.

This form was correctly diagnosed by Jerdon (Ibis, 1872, p. 119), and it is, of course, the same bird which Hermann described from Tranquebar as *Muscicapa atra* (preoccupied).

Dicrurus macrocercus of Vieillot was founded on plate 174, vol. iv. of Le Vaillant's Ois. Afr., and no locality is given. In 1823, Lichtenstein founded the name *Muscicapa biloba* on the same plate. Cabanis (Mus. Hein. i. 1850, p. 111) fixed the type-locality of *Dicrurus bilobus* (Lichtenstein) as Java. Hence the type-locality of *Dicrurus macrocercus* must also be Java. In addition, Lord Walden, in Blyth's 'Birds of Burma,' 1875, p. 129, fixed Java for the latter name. The fixing of Orissa as the type-locality for *D. macrocercus* in the 'Fauna of British India,' Birds, ed. ii, vol. ii. 1924, p. 356, is an erroneous fixation. Moreover, breeding birds from Bengal do not differ from those from Nepal.

Mr. Hugh Whistler forwarded the description of a new subspecies of Crested Tit from the Western Himalayas:—

Lophophanes dichrous kangræ, subsp. nov.

Description.—Differs from the typical race (Nepal and Eastern Himalayas) in being an altogether paler bird. The upper plumage is a paler, clearer grey, the lores and cheeks and the broken collar on the sides of the neck are creamy white instead of warm buff, and the lower plumage is much paler, less brown in tint.

Both Himalayan races agree in having the chin and throat dark, contrasting with the rest of the lower plumage. In the other pale race, *L. d. wellsi* (W. Yunnan), the chin and throat are unicolorous with the rest of the lower plumage.

Measurements.—

5 ♂. Bill from skull 10·5–11 ; wing 67·5–71 ; tail 45·5–47 ; tarsus 17·5–19·5 mm.

5 ♀. Bill from skull 11·5–12 ; wing 65·5–67·5 ; tail 43–46·5 ; tarsus 18–19 mm.

Distribution.—Breeds in the highest tree-zone, 9000 to 11,000 feet, of the Duala Dahr and in the ranges north of Simla, N.W. Himalayas.

Type.—In the British Museum. No. 1468, A. E. Jones Coll., ♂, March 9, 1924, Koti State, near Simla. Brit. Mus. Reg. no. 1932.10.23.1.

Dr. C. B. TICEHURST forwarded the following :—

Mr. Buturlin's protest (Bull. B. O. C. lii. 1932, pp. 149–150) against my naming the Himalayan Golden Eagle *Aquila chrysaëtos hodgsoni* raises a point which, I believe, is already settled and can only be altered by the International Committee on Zoological Nomenclature. In the " Rules " which they drew up Opinion (4) states that " manuscript names " (such as *daphanea* of Hodgson) " acquire standing in nomenclature when printed in connection with the provisions of Article 25." This latter Article explains that a name is valid if " published and accompanied by an indication " ; Opinion (1) states that an indication in Article 25 is to be construed to include (*inter alia*) a bibliographic reference.

Now, applying this to the case in point : *daphanea* of Hodgson was a MS. name, and therefore had no standing ; but as soon as Gray quoted it in the synonymy of *Falco chrysaëtos* of Linnæus, with a bibliographic reference—Syst. Nat. 1758, ed. x. p. 88,—*daphanea* as a name became quickened as of Gray, and is a synonym of *Falco chrysaëtos* Linnæus. The rule may be good or bad, but it is not mine !, and the application in the way I have used it has been done over and over again by others ; I have established no precedent. In this particular case Hodgson gave a name with no description, Sewertzow gave a description and no valid name ; if either of these gentlemen had been living I should have, in accordance with the Code of Ethics in Article 34, informed them that their names were not valid, as I have done in other cases. And so I did the only remaining thing—to name this Eagle after the man who, at all events in his own mind, first differentiated it.

Mr. J. D. La Touche sent the following letter :—

"Sir,—In my 'Handbook of the Birds of Eastern China,' vol. ii. p. 22, I described the Fohkien Spark-headed Woodpecker as new under the name of *Yungipicus scintilliceps kurodai.* This name, I am informed by Dr. Nagamichi Kuroda, is preoccupied by *Dryobates leucotos kurodæ* Götz ('Jahreshefte des Vereins für vaterländische Naturkunde in Würtemberg,' Stuttgart, 81 Jahrg., 1925, Feb. 15, 1926, p. 95). I therefore propose to change the name of the Fohkien bird to

"**Yungipicus scintilliceps nagamichii,** nom. nov."

NOTICES.

The next Meeting of the Club will be held on Wednesday, November 9, 1932, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine are requested to inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who intend to make any communication at the next Meeting of the Club should give notice, as early as possible, to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, so that the titles of their contributions may appear on the Agenda List. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

GENERAL INDEX.

Volume III.

This is now ready and can be obtained from the publishers, Messrs. Witherby & Co., 326 High Holborn, W.C. 1, at the price of £1 1s. 0d.

Agenda.

1. Mr. H. F. Witherby will exhibit a nesting cavity and skins of the British Willow Titmouse, and make remarks thereon.
2. Mr. P. F. Bunyard will read a short paper entitled "A Few Notes on the Birds of Dunkirk."
3. Mr. D. A. Bannerman will show a specimen of an Oyster-catcher from Sierra Leone.

Will Members possessing nests and eggs of the British Marsh and Willow Titmouse kindly bring them to the meeting ?

[illegible] NATIONAL [illegible]

Bird Room

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXIII.

The three-hundred-and-fifty-eighth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, November 9, 1932.

Chairman : Mr. D. A. Bannerman.

Members present :—Miss C. M. Acland ; H. G. Alexander ; W. B. Alexander ; F. J. F. Barrington ; H. B. Booth ; Hon. G. L. Charteris ; Brig.-Gen. G. v. H. Clarke ; H. P. O. Cleave ; Maj.-Gen. Sir P. Z. Cox ; C. Daniels ; A. H. Evans ; A. Ezra ; Miss J. M. Ferrier ; Hon. M. Hachisuka ; B. G. Harrison ; Dr. E. Hopkinson ; Rev. F. C. R. Jourdain ; N. B. Kinnear ; Miss E. P. Leach ; Dr. G. Carmichael Low (*Editor*) ; Dr. P. R. Lowe ; Dr. N. S. Lucas ; Rear-Admiral H. Lynes ; J. H. McNeile ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; Dr. P. H. Manson Bahr ; G. M. Mathews ; J. L. Chaworth Musters ; T. H. Newman ; C. Oldham ; B. B. Osmaston ; F. R. Ratcliff ; C. B. Rickett ; W. L. Sclater ; D. Seth-Smith ; Dr. A. Landsborough Thomson ; B. W. Tucker ; H. M. Wallis ; R. Ware ; H. F. Witherby (*Vice-Chairman*) ; C. G. M. de Worms.

Guests :—Capt. M. M. Buchanan ; R. Dobson ; M. J. Ingram ; Col. R. Jordan ; D. W. Musselwhite ; E. M. Nicholson ; Mrs. H. F. Witherby ; J. D. Wood.

Mr. H. F. Witherby exhibited a series of skins of British and Continental Willow-Tits (*Parus atricapillus*) and Marsh-Tits (*Parus palustris*), as well as a nesting-cavity and nest of a British Willow-Tit and diagrams of nesting-cavities, and made the following remarks :—

In 1900 Dr. Hellmayr described the British Willow-Tit,* taking as the type a bird collected at Coalfall Wood near Finchley, and then in the Tring Museum Collection. This type, with others, has now gone to New York, but we may hope that some day it may be returned to us.

Dr. Hellmayr named the bird *Parus montanus kleinschmidti*, after the well-known German ornithologist, who had already discovered, from specimens which he had found amongst Marsh-Tits in the British Museum, that we had a Willow-Tit in this country.

The naming of a British bird after a German ornithologist was a shrewd blow at us, but one which we thoroughly deserved, since no British ornithologist either in the field or the museum had detected the presence of the Willow-Tit in this country. Moreover it remained unrecognized, except by a few, for a long time after Dr. Hellmayr described it.

In 1907 in the first number of 'British Birds,' i. 1907, p. 23, the late Dr. P. L. Sclater wrote an article on the British Willow-Tit, referring to it as a " supposed " new British Tit. A little later Lord Rothschild wrote describing the bird's distinctions, and deploring the want of its recognition, and we attached an editorial appeal for observations.

The first serious contribution on the notes and distribution of the bird from field observations was made by the late C. J. Alexander (' British Birds,' iv. 1910, pp. 146–147), who worked with his brother H. G. Alexander who, I am glad to see, is here to-night. Since then a good many observations have been made, but by comparatively few. We have now a general idea of the bird's distribution and a fair idea of its habits, but there is much more to be learnt.

I make no excuse for bringing the subject forward here for these reasons, and also because there are still a good many who do not know the bird and are doubtful of its distinctions, and some who definitely refuse to believe there is such a bird.

*Orn. Jahrb. xi. 1900, p. 212.

This summer, on May 28, a keeper pointed out to me a Tit's nest in a hole in a tree on the borders of Wilstone Reservoir, near Tring. The hole had evidently been bored by the bird itself, and was in a small rotten willow overhanging a wide ditch along a marshy field and separated by a narrow pathway from the reeds on the edge of the reservoir.

The bird sat tight, then went off and joined its mate. It was difficult to see them well, but from glimpses I got I thought they were Willow-Tits, and this was confirmed by a deep toned "tchēē-tchēē" alarm note uttered twice. But the birds were on this occasion very undemonstrative, and they were no doubt incubating.

Lord Rothschild having kindly given me permission to make a full investigation of the nest I visited it again on June 4. On this occasion I was accompanied by Mr. E. M. Nicholson, whom we have here to-night.

We had perfect views of the birds, which were feeding young with beaks full of small flies. They were very demonstrative and constantly shivered their wings and uttered a string of alarm notes chiefly "tchay" repeated several times, a deep-toned note. Sometimes it was distinctly "tchēē," and was occasionally prefaced by a very high-pitched "zit," which seemed to come at the height of their excitement at our presence. At one time the old birds were in such a perfect light, at close range a little below the level of our eyes, that the crowns appeared to both of us, at different angles, as obviously a deep sooty colour, and at no time could we see any gloss on them. A pale edging to the secondaries was observable once or twice, but was a difficult feature.

We made an entry into the back of the nesting-hole and extracted one nestling for examination. This was one or two days old, with some pin-feathers but none yet broken out. I wrote down a description of the down-plumage and mouth-coloration, and this does not differ from the Marsh-Tit.

On June 11 I visited the nest again and watched the birds feeding the young, this time with green caterpillars. The young were now nearly ready to fly.

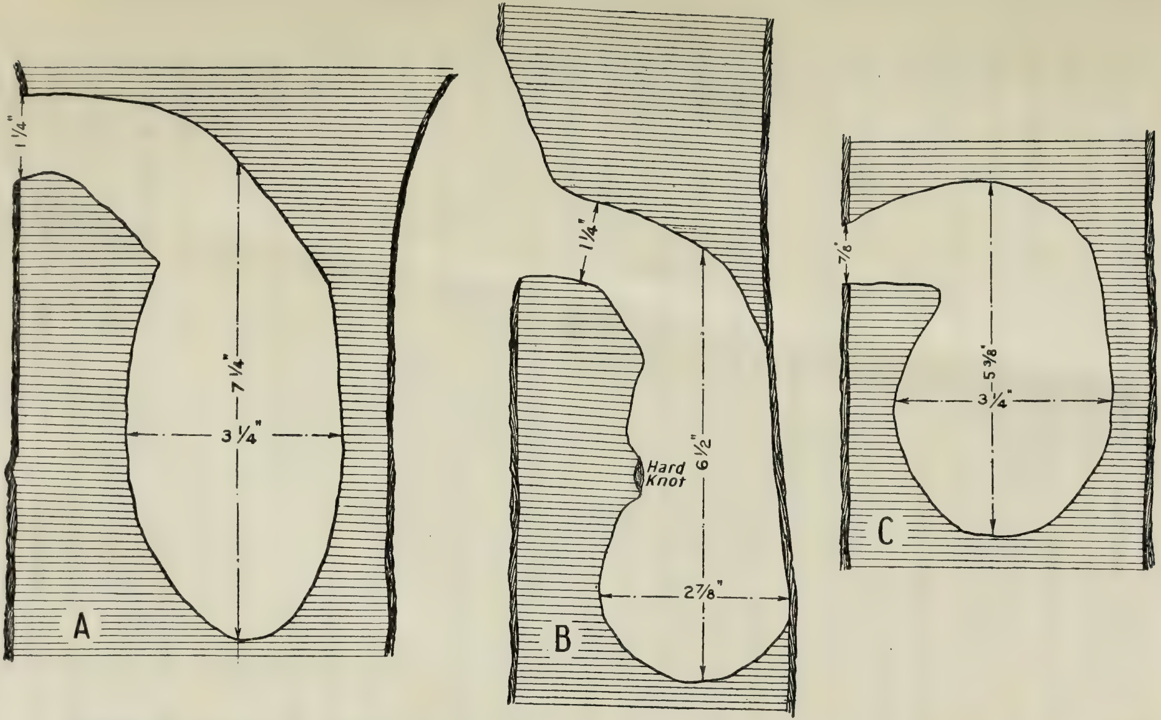
As carefully collected material of the birds in this stage was much wanted I took the young and collected one old bird, and am showing these here to-night, and also the nesting-hole and nest.

It is well known that Willow-Tits bore their own nesting-holes, but I am sure there is a good deal more to be learnt about the shape and size of these cavities. I have brought up for exhibition the Tring nesting-hole, and Mr. Musselwhite has kindly brought one in a birch, which he took some years ago, and from which he caught the bird which was identified at the Natural History Museum as a Willow-Tit. I have made rough diagrams and taken measurements of these two cavities. You will see that they are both retort-shaped like the cavity made by a Woodpecker.

I cannot find that much in detail has been written about Woodpecker holes, but Baron von Berlepsch examined a great many in section, and found them very uniform in shape, though differing in size according to species. In the little book 'How to attract Birds,' drawings in section are given of the nesting-cavities of four species, and I have made a diagram enlarged to natural size of that of the Lesser Spotted Woodpecker. If you will compare that with the Tring Willow-Tit nesting-hole you will find them remarkably alike. Mr. Musselwhite's has a curved dome and is shorter and wider, but in the general flask-shape is the same. At the bottom the Woodpecker's is more pointed, but then it makes no nest as the Willow-Tit does (*vide* figure 1, p. 29).

It seems to me very remarkable that the Willow-Tit with its feeble little beak should bore out a hole shaped like those of the Woodpeckers—birds to which it bears no relation. It must have very soft rotten wood, and it evidently cannot overcome obstacles such as hard pieces. You will see a hard knot in the Tring nest which has quite spoilt the symmetry of the hole. And perhaps the harder wood on the entrance side has driven it too far over, so that it came against the hard bark on the other side. Mr. Musselwhite's nest is a more perfect example, but it seems probable that Willow-Tits's nesting-holes vary in size according to the nature of the wood. Even in Mr. Musselwhite's example the bird has not been able to make a correct shaped entrance probably owing to hard bark.

Figure I.


1 1/4"
7 1/4"
3 1/4"
A
1 1/4"
6 1/2"
Hard Knot
2 7/8"
B
7/8"
5 3/8"
3 1/4"
C

Nesting-cavities of : A. Lesser Spotted Woodpecker (*Dryobates minor*), after Berlepsch ; B. British Willow-Tit (*Parus atricapillus kleinschmidti*), collected by H. F. Witherby near Tring, Herts ; C. British Willow-Tit, collected by D. W. Musselwhite. (One-third natural size.)

Are there any other birds which bore shaped holes like these? I ask for information.

Mr. Nicholson suggested to me that Parrots might bore out shaped nesting-holes. I wrote to Lord Tavistock about this and he replies: "Parrots nearly always use a natural cavity. If the entrance-hole is not large enough they may bite it to the required size in a more or less circular shape. If the bottom of the cavity is not large enough they stand on the bottom and enlarge it by biting the adjacent portions of the sides."

The Marsh-Tit is said occasionally to bore out a hole. But is there an authenticated case of its making a retort-shaped cavity like those in figure 1.

It is difficult to believe that a bird could occasionally make a hole of such a definite specialized shape. This is surely the result of an instinctive habit evolved during countless generations. Or can it be purely mechanical? When the bird has got down a certain depth does it sit at the bottom and turn round like a bird making a nest and peck away all round as far as it can reach? If we could get series of specimens in various stages we might learn how it is done, and I would ask members to lose no opportunity of obtaining nesting-cavities (complete and incomplete) of Woodpeckers and Tits.

The fact that the Willow-Tit bores out this distinctively shaped hole is surely a very strong argument for its being a distinct species.

The nest itself from the Tring birds, as you will see, is very slight and measured only half inch deep. It is made of vegetable fibre mixed with fine hairs, which Mr. B. W. Tucker has kindly examined and proclaimed to be rabbit. There were a certain amount of chips of wood and two or three small feathers from the bird itself. As Mr. Musselwhite has brought some nests and eggs of both species and will speak about them, I will leave him to point out the differences. I need only add that Mr. A. Hazelwood, who finds the Willow-Tit common round Doncaster, informs me that in two nests there was a good quantity of leaves which were cut up and loose, and this was in a neighbourhood where there are no Nuthatches.

I did not see the eggs in the Tring nest, but there were certainly only five young and no sign of unhatched eggs. This Mr. Musselwhite tells me is an unusually small clutch.

I have kept to the last the appearance of the birds themselves, because I think the differences between the two species are often very difficult to detect, and I believe this has led to a good many observers refusing to acknowledge that there are two species.

In fresh plumage from autumn to early spring the Willow-Tit is distinctly darker, more brown-buff on its underparts and especially the flanks. But this distinction unfortunately disappears, I find, by wear, and birds at nesting-time are often no darker on the flanks than Marsh-Tits. The outer webs of the secondaries in the Willow-Tit are pale or rufous, contrasting with the brown of the rest of the feathers, while in the Marsh-Tit the colour is uniform. But this is, though sometimes rather conspicuous, often a difficult field distinction, and is much less apparent in summer when the feathers are worn. The outer tail-feathers in the Willow-Tit are always short, but so they are sometimes in the Marsh-Tit.

We are left with one other distinction, and certainly the best, the glossy black cap of the Marsh and the dull, often brownish-looking, cap of the Willow. But even this is not certain in the field. The bird is often above you and against the light. To see it properly you must have the light behind you and the bird more or less on a level, then the Marsh-Tit's cap is really glossy. But there is sometimes a little dull gloss on the Willow-Tit. It is easy to see the difference when you have the two birds side by side in the hand, but it is very easy to make a mistake even if you catch a bird and have nothing to compare it with.

As I suspected that the glossy crown-feathers of the Marsh-Tit would differ in structure from the dull ones of the Willow-Tit I took samples from the middle of the crown of two birds. Under a low power indifferent microscope there certainly seemed to be differences, so I sent the feathers to Dr. Percy Lowe, and he kindly mounted them on slides and examined them microscopically. You will see by the diagram which Dr. Lowe has prepared and the description he will give that there is a definite difference in the structure of the barbules or radii at the tips of these feathers. This difference in the structure of the feathers of the crown is obviously important. We should no doubt examine a whole series before saying that it is a constant difference, but as gloss is caused by structure it seems highly probable that this interesting difference will hold good.

I have brought up here a series of skins in different plumages. Birds of the two species are put side by side, and although daylight is much better than artificial light you will be able to see some of the differences.

I am showing British Willow-Tits (*Parus atricapillus kleinschmidti*) and British Marsh-Tits (*Parus palustris dresseri*).

(*a*) Adults in fresh plumage.
(*b*) Adults in worn summer plumage.
(*c*) Juveniles fully feathered.
(*d*) Nestlings not fully grown, but just ready to leave the nest.

I am also showing for comparison

From Norway :—

The Northern Willow-Tit (*Parus atricapillus borealis*).

The typical Marsh-Tit (*Parus palustris palustris*).

This large grey Willow-Tit with its very white cheeks and conspicuous greyish-white edgings to the secondaries and tail-feathers is very like the Alpine Willow-Tit (*Parus a. montanus*) and very different from the Norwegian Marsh-Tit, which is, in fact, much like ours.

From Holland :—

Willow-Tits (*Parus atricapillus rhenanus*) and Marsh-Tits (*Parus palustris communis*), which only differ slightly from our birds.

With regard to the young birds. The nestling Marsh-Tits Mr. Kinnear has kindly brought up from the Museum. They were collected with one of the parents some years ago by Rear-Admiral Lynes, who thought until he got them that they were Willow-Tits, and he was afterwards annoyed that he had only procured a family of Marsh-Tits. But any birds collected in this careful way are sure to prove of value, and these happen to be exactly the same age as the Willow-Tits I got at Tring and show an interesting difference, the Willow-Tits being distinctly creamy-buff on the cheeks and underparts compared with the white of the Marsh-Tits. In older young this difference is not nearly so obvious, probably through wear, and as the juvenile Marsh-Tit has a dull head and not a glossy one like the adult, it is difficult to tell it from a Willow-Tit.

We thus have four main differences in the two species :—

1. Notes and song.
2. Nesting-cavity.
3. Nest.
4. Plumage and colour and structure.

I fail to see how any one can deny them all.

I would close my remarks by appealing to members to study the Willow-Tit, as there is still much to be learnt about its habits, habitats, and distribution.

Mr. H. G. Alexander contributed the following notes on Willow- and Marsh-Tits. He said :—

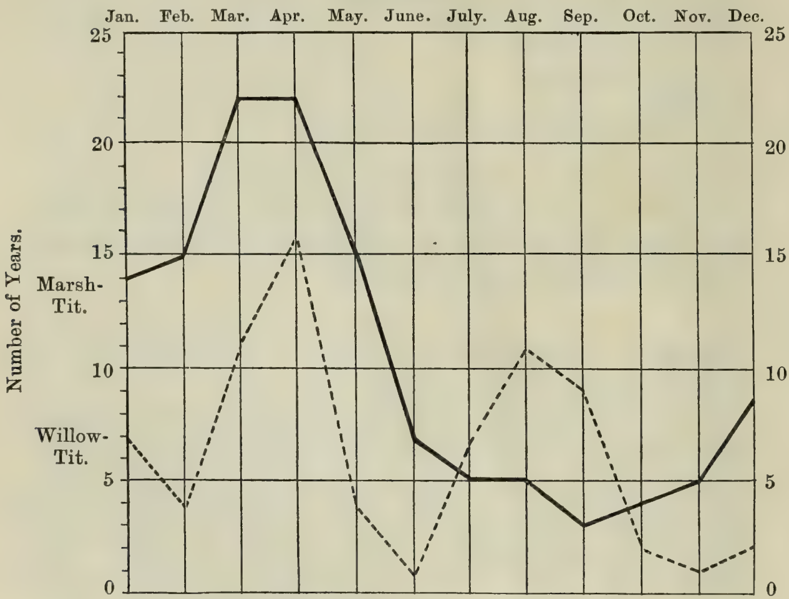
I do not think I can add to what is generally known about field identification of the Willow-Tit by sight. Of the various features that might be mentioned—blackish-brown head instead of glossy black, buff underparts and whitish patch on the secondaries—the last-named, the pale wing-patch, is to my mind, the only infallible one. The colour of the crown seems to vary very much in different lights, and the Marsh-Tit sometimes looks fairly buff on the sides, though I rather think its throat is a purer white ; this point struck me again only last week, when I saw both species on one day.

But unless I see the colour of the closed wing well, I dare not identify the bird for certain if it is quite silent.

As I believe the notes and plumage are supposed by some sceptics to vary at different times of year, I have been through my notes for the past 25 years, and I find that in 24 years of fairly regular observation I have seen Willow-Tits in every month of the year, though for some reason less frequently in May and June (14 years and 10 years respectively, out of the 24) than in any other month. I think this is partly because I am not much interested in birds'-nests, but chiefly because the song-period ends early.

Actually, the Willow-Tit's very sweet, almost canary-like song, is uttered very erratically through the year. In this respect I would compare it to the Pied Wagtail. I find that in the course of 24 years I have heard the song in every month—only once each in June and November, and only twice in October and December. In March I have heard it in 11 years, in April in 16 years, but in May only in 4 years. But it has a rather strong period of song in late summer, for I have heard it in 7 years in July, 11 in August, and 9 in September.

FIGURE 2.



Graph of Marsh- and Willow-Tit's Song.

Marsh-Tit's Song: ——— Willow-Tit's Song: -------

This contrasts rather curiously with the Marsh-Tit, whose song-period (I refer to the loud single note repeated it may be a dozen times or more) is much more clearly marked. In 22 years of observation I have heard the Marsh-Tit's song every year in March and April, in 15 years in February and May, and in 14 Januaries. For the rest of the year the number is much lower, and I have only heard it in 3 Septembers.

As to the call-notes, these, of course, are numerous with all the British Tits (except perhaps Long-tailed). Just as Great and Marsh are sometimes almost indistinguishable, so, too, the Willow sometimes utters uncertain notes. But it is quite as easy to confuse some of its notes with Blue as with Marsh.

The two commonest notes, however, are really very distinct. One is about the highest, thinnest little note of any British bird I know, except for the little Bat-like note which a Lesser Whitethroat sometimes utters. It is this note which can sometimes be confused with a half-note (if one may use such an expression) of a Blue-Tit. The second note, a very deep, "charr, charr, charr," is right at the other end of the scale, and is very much harsher than any note a Marsh-Tit makes. It is, to my mind, one of the most arresting call-notes of any of our small birds. It is as startling as the scolding note of the Dartford Warbler.

As a rule, I hear and see Willow-Tits in hedges or small copses, often in places quite a long distance from woods—in fact, in places where one would not expect to see a Marsh-Tit.

I might perhaps mention, in conclusion, that the Central European subspecies, in Holland and Germany, seem to be distinguishable in nearly the same way as our birds. But I was amused to discover that in Norway, where I again found the two species living side by side, they seemed almost to have exchanged liveries. It was clear enough, both to ear and eye, that two species were present; but the Willow-Tit is there much the paler species, and the whitish secondaries are inconspicuous.

Mr. E. M. NICHOLSON dealt with the song and distribution of the Willow-Tit.

The Willow-Tit, he said, has a very varied language. Some of the most common utterances seem to be: the full song—very rich, warbling, and often including a throbbing phrase very like the "swat-swat-swat . . ." of the Nightingale. Noted in all months, March-July inclusive, and in September and January (a pronounced post-breeding burst of song in late June and July) subsong, a weak inward warbling audible only at very close range ; a " song-phrase " comparable to the well-known refrains of the Lesser Whitethroat or Chiffchaff, being a tripping repetition of a single liquid musical note, of Goldfinch-like quality. Another " song-phrase " with exactly the same rhythm as the song of a descending Tree-Pipit, but the notes slurred instead of drawn out. The normal loud nasal " Ees-Aig, Aig, Aig, Aig " (or " Tchay " note) carrying several hundred yards. A lower version of the same used by foraging birds as a contact note, and much more slurred—" Ee-zur, zur, zur, zur, zur." The very high, shrew-like " keening."

Generally speaking, the Willow-Tit appears to use notes either in quick tripping series or separately with a chiding emphasis. They are less often incidental and unaccented than those of the Marsh-Tit, although some of the notes may be confused.

As to distribution in England and Wales some important questions seem to be : How far does the Willow-Tit extend, and in what strength ? On which geological formations does it flourish ? What sort of habitat does it favour ? In what numbers does it exist relative to the Marsh-Tit ?

While in the Alps a clear altitudinal dividing line is traceable between the two species, in England no such division exists. For instance, in N. Hampshire the Willow-Tit occurs all the way up to 870 feet on Pilot Hill, but, the Marsh-Tit is dominant in oak " coppice with standard " woodland on the ridge above 800 feet.

Willow-Tits have been identified by the present observer on other high chalk ridges at Buriton (Hants), Selsdon (Surrey), in Charlton Forest (Sussex), and elsewhere. Also on oolite at Rendcomb (Gloucestershire), on greensands at Haslemere, and many other localities, on London clay at Ruislip Reservoir, Middlesex, and on other recent formations in Epping Forest (Essex) and at Sandford-on-Thames (Oxfordshire). This list (not exhaustive) shows a considerable variety of choice. On the whole the Willow-Tit seems to favour more open types of ground—thickets or commons, wild hedgerows, scattered trees on or by marshy patches, and so forth. It is, all the same, met with freely in woodland, and the Marsh-Tit is not confined to woodland. Both may be found side by side, in varying numerical proportions.

These observations are entirely tentative, and are put forward to stimulate fuller investigation.

Mr. D. W. MUSSELWHITE made the following remarks :—

I first made the acquaintance of the Willow-Tit (*Parus atricapillus kleinschmidti*) in 1929, up to which time I had, like many others, regarded the species as one around which there might be some little doubt. When I say doubt I mean whether there were definite and unmistakable differences between it and the British Marsh-Tit (*Parus palustris dresseri*). Having given some attention to the Marsh-Tit for some years beforehand, a little study of its cousin soon convinced me that it is quite a separate species. Although the differences in the birds themselves are not very apparent in the field, there are, nevertheless, certain distinguishing features.

As Mr. Witherby and others have dealt at some length with most of its characteristics I will endeavour to give you some information concerning the nests and eggs. From 1929 I have located four breeding pairs, the nests and eggs of which I now exhibit, together with the nesting-site of the 1929 pair. In addition to these I have seen several nests and eggs taken by others and have been able to observe several birds in the field, their notes in almost every case being responsible for their identity.

From my own experience I am of opinion that the nests could not be mistaken or confused with those of the Marsh-Tit. To enable a comparison to be made I also exhibit six nests of this latter species, from which it will be noticed that there is not only a difference in the materials employed, but in the construction and general make-up. In the case of the Willow-Tit the nest is more loosely put together and the whole of the materials used are completely mixed, showing no difference in one part of the nest to any other. The Marsh-Tit, on the other hand, constructs its nest quite differently. The base is of one material and the lining is of another, and generally it would be a fairly simple matter to separate the two. Even a casual glance at the Willow-Tit's nests will show you that such a thing with them could not be done.

The materials used in typical nests are :—

Willow Tit :—Wood fibre. Fur or other soft material. Small feathers (all materials well mixed up).

Marsh-Tit :—Base of moss lined with pad of rabbit fur or other soft material. (Foundation and lining can be separated.)

As might be imagined, there is to some extent a certain amount of intergrading. Occasionally a Willow-Tit will make use of a little moss, and a nest here and there is to be found without feathers and so on, but the general construction would almost certainly dispose of any doubt.

I have a series of fifteen nests of Marsh-Tit, which has served as useful material for the purpose of comparison, and Mr. R. Ware, who is also interested in this subject, has at least as many which, thanks to him, have always been a ready reference.

As to the eggs, I would say that the markings on those of the Willow-Tit often show a tendency to being lighter and bolder, but there is little doubt that the eggs are more likely to intergrade or overlap than is the case with the nests. There is another point—the average number in a clutch. The Marsh-Tit usually lays 6, 7, or 8, but a good deal of evidence exists to support the suggestion that quite possibly the average clutch of Willow-Tit is about 8—perhaps one more than Marsh-Tit. The four clutches I am showing number 12, 10, 9, and 8, but the average of fourteen clutches known to me give an average of 8. More information on this point is desirable.

The birds usually start to excavate their nest-chamber some time in April, and generally have a complete clutch during the first week in May.

A good number of the wood-chips are usually to be found below the hole, but I am able to state that sometimes, at any rate, many are carried by the birds and dropped elsewhere.

As with most of the Titmice the eggs are generally covered with the nesting material until the bird begins to incubate. The male frequently visits and feeds the sitting hen.

The various notes of the two species are to my ear quite different.

As to distribution, I would say that the Willow-Tit is not to be met with nearly so often as the Marsh-Tit, and on the whole is a quieter bird, and this fact, together with the similarity of the two species in the field, frequently results in the Willow-Tit being overlooked.

Mr. R. Ware exhibited a series of nests and eggs of the British Marsh-Tit (*Parus palustris dresseri*) for comparison with nests and eggs of the British Willow-Tit (*Parus atricapillus kleinschmidti*), exhibited by Mr. Musselwhite.

The markings on the eggs of the latter species are of a decidedly lighter and brighter shade of reddish-brown.

Three of the Marsh-Tits' nests were taken from cavities entirely excavated by the birds.

He remarked that he had closely studied the songs and notes of the Marsh-Tit, and that the alarm-notes of the species at the nest were invariably the same and so entirely different from the corresponding notes of the Willow-Tit as to afford a certain means of identification.

The Rev. F. C. R. Jourdain pointed out that the reason why the Willow-Tit was overlooked by British naturalists and detected by German and Austrian ornithologists, was because of the existence of the two closely allied species, the Marsh- and Willow-Tits, side by side over a great part of the Continent. In some districts the two species diverge widely, in others they converge. Great Britain is one of the countries where they converge most closely; in fact, if the two species did not exist outside the British Isles, it is very doubtful whether any ornithologist would venture to describe them as separate species on the evidence of the skins alone, but with the aid of a collection from other parts of Europe the matter is simplified. Here, as in hundreds of other cases, the study of nests, eggs, and bird-notes comes to the aid of the observer. To state that these branches of ornithology have made no contribution to science merely shows that the writers are entirely ignorant of the history of ornithology. There are four or five similar cases in the Palæarctic region, such as the two Tree-Creepers, the two Pied Flycatchers, and the two Crested Larks. In the case of the Reed- and Marsh-Warblers it was through the eggs that the presence of the latter was detected in England; oology has proved equally valuable in the case of the Creepers, and nesting-habits in that of the Marsh- and Willow-Tits.

Structural Differences in the Feathers of the Crown of the Head of the Marsh- and Willow-Tits.

Dr. PERCY R. LOWE said that Mr. Witherby had sent him two feathers, one taken from the crown of the head of *Parus palustris dresseri*, the other from that of *Parus atricapillus kleinschmidti*, with a request that he would examine them microscopically with the object of ascertaining if there were any differences of structural detail by which, not only could the feathers of the two species be recognized and definitely diagnosed, but also by which the *gloss* on the crown of the Marsh-Tit and the *dullness* in the same situation on the Willow-Tit could be respectively explained.

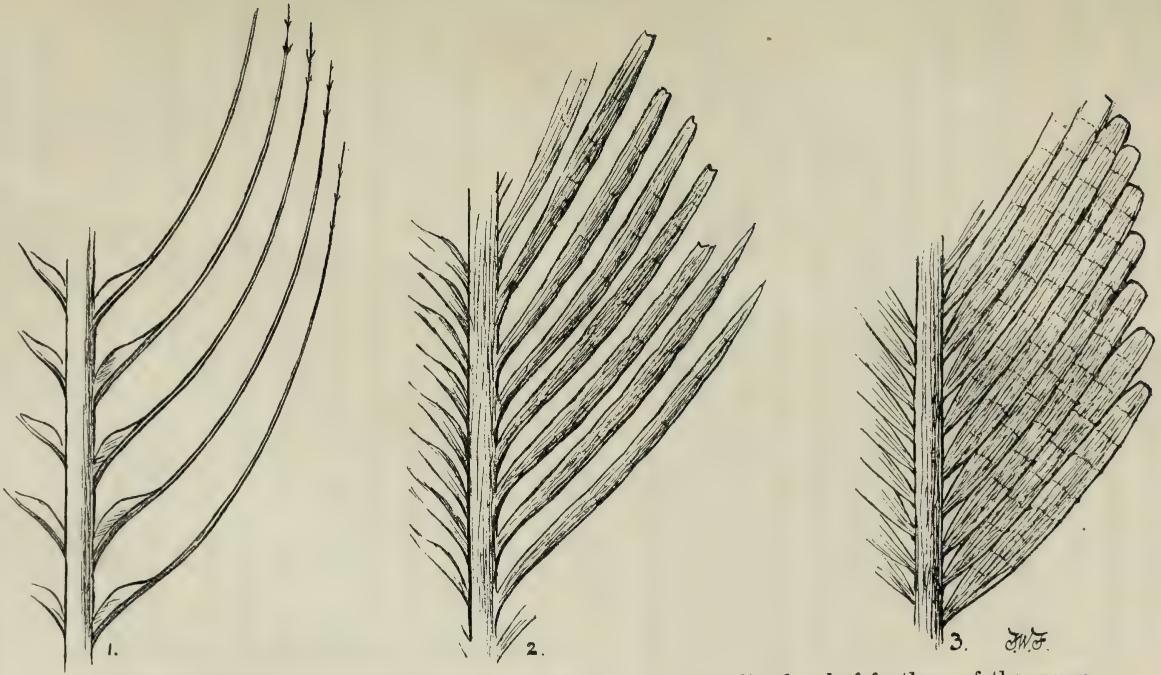
Dr. Lowe said that he had examined them and that he had found definite structural differences. He thought, moreover, that these differences were interesting not only as suggesting that the two birds in question were genetically distinct, but as illustrating a general principle of differentiation in the colour of birds' feathers which prevailed throughout the class. He then proceeded to illustrate the differences found by some diagrammatic sketches which he had made on the blackboard (*vide* figure 3, p. 41). These represented distal barbules taken from *the distal third* of the feathers of the two species in question, and also some from the same situation taken from a species of Sunbird (*Cinnyris*).

He described the differences as follows:—

(1) PARUS ATRICAPILLUS KLEINSCHMIDTI (British Willow-Tit).

(*a*) The base of the barbule is distinctly differentiated from the pennulum.

FIGURE 3.



To illustrate structural differentiation in distal barbules at the distal end of feathers of the crown; taken from examples of (1) *Parus atricapillus kleinschmidti*; (2) *Parus palustris dresseri*; (3) *Cinnyris afer*.

N.B.—The barbules in *Parus palustris dresseri* have been slightly exaggerated as to width.

(*b*) The barbules show a considerable amount of discontinuity, that is to say, they are widely separated from one another.
(*c*) They take a sweeping curved course well away from the barb.
(*d*) The base of the barbule is a thin somewhat triangular and translucent structure; the pennulum is long, slender, undifferentiated (except that it shows evidence of keratinization), and quickly tapers towards the point, where there is evidence of cellular differentiation.
(*e*) There appears to be little obvious evidence of pigmentation, although, of course, some must exist.

In respect of all the above characters the barbule does not differ from the generality of barbules taken from the distal third of feathers of adult passerines; that is to say, of feathers which are *not* specialized in regard to coloration, or rather, owe their colour to pigment.

(2) PARUS PALUSTRIS DRESSERI (British Marsh-Tit).

(*a*) There is very much less differentiation between the base of the barbule and the pennulum.
(*b*) The barbules exhibit considerably less discontinuity.
(*c*) They take a much straighter course out from the barb, their curvature being hardly apparent.
(*d*) The entire barbule has an almost uniform width, being thicker throughout than the base of the barbule in the Willow-Tit. It is shorter, truncated, exhibits evidence of a nodal and internodal structure, and may be fancifully described as being somewhat reminiscent of a thin stem of Equisetum.
(*e*) It is pigmented, although somewhat translucent, the pigment being yellowish-brown and apparently of the same nature as that seen in the feathers of the Humming Bird, Sunbird, or Peacock.

It would appear to be probable that in these barbules of the Marsh-Tit there is just enough pigment and structure of a refrangible nature to *cause a refraction of the light and so produce a gloss*, or even enough to cause a slight tinge of blue to appear.

This is probably rendered easier by the nearer approximation of the barbules than obtains in the Willow-Tit, where the light would pass through without any obstruction and no specialized pigment or special structure is present.

(3) CINNYRIS AFER AFER (The Greater Double-collared Sunbird).

(*a*) There is no differentiation between the base of the barbule and the pennulum.
(*b*) The barbules exhibit no discontinuity, but lie with their contiguous edges touching or overlapping.
(*c*) They take a perfectly straight course out from the barb, but, as in the Marsh-Tit, make an acute angle with it. They are truncated.
(*d*) They have a uniform width, which is wider than in the Marsh-Tit; have been shortened as in that bird, and exhibit a very definite evidence of cellular and nuclear structure.
(*e*) The special pigmentation is more marked.

Conclusions.

(1) It is clear, then, as regards structural detail and pigmentation that the barbules of the Marsh-Tit and the Sunbird must be associated, and that the barbules of the Willow-Tit, on the contrary, must be dissociated as standing in a different category; the obvious inference being that the barbules of the Marsh-Tit exhibit a less specialized phase of structure than that seen in the Sunbird. In a word, the feathers of the Marsh-Tit exhibit the first symptoms of specialization towards that category of interference coloration which is recognized as refractive.

(2) Regarding the question solely from this point of view, it has to be decided whether the Marsh-Tit and Willow-Tit are (1) genetically distinct and now exhibit the phenomenon of parallelism, or (2) are genetically allied and are showing evidence of divergence. As at the present time we have no means of arriving at the real truth and do not even know what a species is, it would probably be wiser to leave the subject here.

But in the ordinary acceptance of the word there seems to be little room for doubt that the Marsh-Tit and Willow-Tit judged by histological features are specifically distinct.

Mr. D. A. Bannerman exhibited a number of birds from the islands off the Sierra Leone coast and said:—

I have brought for exhibition to-night a few birds which were collected last winter by Commander G. N. Hughes, R.N., which he obtained on some islands which lie off the coast of Sierra Leone. These islands are named Plantain Island, Mut Island, and Banana Island, and are situated between Freetown and Sherbro, as you can see on the map which is on the table. I do not think anyone has collected birds there previously, and at my suggestion Commander Hughes landed on as many of the islands in the Turtle and Banana groups as possible. It was, unfortunately, too early in the year to discover what sea-birds bred there, but three species of Terns were obtained—the African Royal Tern (*Sterna maxima albidorsalis*), the Gull-billed (*Gelochelidon nilotica*), and the Sandwich (*Sterna s. sandvicensis*). The breeding place of *Sterna maxima albidorsalis* is as yet undiscovered; it is found on the Upper Guinea coasts in winter, fairly commonly from Gambia southwards. The Gull-billed Tern is also a winter visitor common on the coast of East Africa, but the bird which I exhibit to-night from Yelibuya Island is only the third record from the West Coast. The third species is the Sandwich Tern, which is an exceedingly numerous winter visitor, and which is constantly shot as far south as Mossamedes and Benguella.

Commander Hughes's most interesting discovery was a specimen of the European Oyster-catcher (*Hæmatopus ostralegus ostralegus*), which extends the known winter range south considerably.

Other winter migrants from Europe were the Whimbrel (*Numenius ph. phœopus*), Grey Plover (*Squatarola s. squatarola*), and Common Sandpiper (*Tringa hypoleucos*).

A single Petrel proved to be the Common Storm Petrel (*Hydrobates pelagicus*).

The only land birds were the Grey Plantain-eater (*Crinifer piscator*), Black and White Kingfisher (*Ceryle r. rudis*), Red-eyed Dove (*Streptopelia s. semitorquata*), and the widely spread V-marked Weaver (*Ploceus c. cucullatus*), and a Common Bulbul (*Pycnonotus barbatus*). A few other birds were collected on the Bullon shore, of which a specimen of Cuvier's Falcon (*Falco cuvieri*) is the first recorded from Sierra Leone.

Commander Hughes sailed again in H.M.S. 'Endeavour' for a further period of survey work off the Sierra Leone Coast, and I am sure will succeed in adding further to our knowledge. He intends to pay particular attention to the Petrels and Shearwaters which he may encounter.

The Rev. F. C. R. Jourdain made the following remarks on the breeding of *Pernis a. apivorus* in Great Britain.

He said that as some of those present were not oologists they would probably be unaware that within the last 5 years a large raptorial species had been restored to the British breeding list. He referred to the Honey Buzzard (*Pernis a. apivorus*), stated to have been exterminated by egg-collectors offering £5 for a clutch of eggs. A fact always suppressed, however, is that there was also competition among local landowners for a pair of birds complete with nest and nestlings to decorate the billiard room, and for this purpose up to £40 was offered! The last authenticated case of breeding took place in 1899. Since that date not a single egg has been taken in the British Isles. On the other hand, the slaughter of this harmless species by gamekeepers has gone on steadily for 33 years and still continues. Mr. G. Bolam knew of 40 cases in Northumberland and the north-eastern counties alone, and estimated the annual death-roll there at one or two per annum. In 1881 between 20 and 30 were killed in Norfolk alone, and at least half-a-dozen more in Essex. I find that over 30 were recorded as killed in various parts of Great Britain in the 10 years following the last breeding record, and this only represents a fraction of those killed. During the last 20 years it has become more difficult to publish records, as taxidermists are not willing to give evidence which might be detrimental to their customers; but from personal experience and occasional notes in county records it is quite clear that the slaughter goes steadily on. If we take an average of only three birds per annum for 33 years we get a total of 99 birds, yet we know that 13 were killed in 1908 and between 26 and 36 in 1881 in East Anglia alone. The number of birds killed must therefore be largely in excess of 100. It has been stated that these are Scandinavian migrants and would not breed here. The answer is that they have done so, just as migrant Bitterns from Holland have re-colonized Norfolk.

The speaker said that protection had done nothing to save this bird for us, while, on the other hand, the oologists (in one case an egg dealer) had found six or seven nests in the last five years, and not one had been interfered with. In three cases the eggs were actually handled and yet allowed to hatch off. What is the use of oologists preserving such species while game preservers are neutralizing all their efforts?

Dr. MORIZ SASSI, of the Natural History Museum, Vienna, Austria, sent the following note:—

In the Bull. B.O.C. xli. 1920, p. 8, Mr. Stuart Baker proposed for *Chloropsis malabarica* (Blanford & Oates) a new name, viz., *Chloropsis aurifrons davidsoni*. I find, however, that Pelzeln, in Sitzungsberichte der mathem.-naturwiss. Klasse der kaiserl. Academie der Wissenschaften in Wien, Tome xx. 1856, p. 157, pl. ii. fig. 1, has already described and figured the same form as "*Phyllornis frontalis* Natterer MS.," the type-specimen, an adult male, having been collected at Khelgate, near Goa, by the late Baron Huegel.

The bird, which is still preserved in the Vienna Museum, agrees perfectly with Baker's diagnosis, differing from typical *aurifrons* by the black instead of blue chin and throat and by the absence of the surrounding golden yellow collar.

It follows that this form has henceforth to be called

Chloropsis aurifrons frontalis (Pelzeln).

NOTICES.

The next Meeting of the Club will be held on Wednesday, December 14, 1932, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine must inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

GENERAL INDEX.

Volume III.

This is now ready and can be obtained from the publishers, Messrs. Witherby & Co., 326 High Holborn, W.C. 1, at the price of £1 1s. 0d.

Agenda.

1. Mr. David A Bannerman, Chairman of the Club, will give an address on the chief ornithological events of the year.
2. Mr. D. L. Lack will read a paper on the "Birds of Bear Island," illustrated with lantern-slides.

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXIV.

The three-hundred-and-fifty-ninth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, December 14, 1932.

Chairman : Mr. D. A. Bannerman.

Members present :—Miss C. M. Acland ; W. B. Alexander ; E. C. Stuart Baker ; Miss P. Barclay-Smith ; F. J. F. Barrington ; Miss M. G. Best ; P. F. Bunyard ; H. P. O. Cleave ; Maj.-Gen. Sir P. Z. Cox ; A. Ezra ; Miss J. M. Ferrier ; W. E. Glegg ; Major C. H. B. Grant ; A. F. Griffith ; Hon. M. Hachisuka ; Rev. J. R. Hale ; Col. A. E. Hamerton ; B. G. Harrison ; Dr. J. M. Harrison ; Dr. E. Hopkinson ; Rev. F. C. R. Jourdain ; N. B. Kinnear ; Miss E. P. Leach ; Dr. G. Carmichael Low (*Editor*) ; Dr. P. R. Lowe ; Rear-Admiral H. Lynes ; T. H. McKittrick, jun. ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; J. H. McNeile ; G. M. Mathews ; Mrs. C. D. Murton ; C. Oldham ; C. B. Rickett ; W. L. Sclater ; D. Seth-Smith ; Major M. H. Simonds ; Major A. G. L. Sladen ; Marquess of Tavistock ; B. W. Tucker ; Miss E. L. Turner ; H. M. Wallis ; H. Whistler ; H. F. Witherby (*Vice-Chairman*) ; C. G. M. de Worms.

Guests of the Club :—D. L. Lack ; Dr. H. L. Lack ; Dr. T. G. Longstaff.

Guests :—Mrs. D. A. Bannerman ; Miss M. Barclay ; Hon. Bride Fremantle ; J. P. R. Hale ; D. F. Hampson ; G. Rhodes ; Col. H. I. Robinson ; Mrs. W. L. Sclater ; Capt. G. Sherriff ; B. F. Smythe ; J. Vincent ; S. Zuckerman.

The CHAIRMAN (Mr. David A. Bannerman), before delivering his Annual Address, said that during the past year we had had to deplore the death of three of our members:—W. Shore-Baily, who was well-known to many of us, served on the B. O. U. Committee in 1930, and was a member of the Club for many years; Thomas Parkin, one of the oldest members of the B. O. U., and a Vice-President in 1925; and A. H. Meiklejohn, another senior member of the Club, who died on April 23, 1932.

Chairman's Address.

INTRODUCTORY REMARKS.

MY LORD, LADIES, AND GENTLEMEN,—

It was the custom of past Chairmen of this Club to deliver an annual address at the second or third meeting of each Session, and up to the year 1927 your Chairmen confined their addresses to a detailed account of work done in ornithology in all its branches during the previous year, a task which annually became more formidable. Of recent years, however, your Chairmen have branched away from that time-honoured custom and have addressed you on subjects upon which they are recognized as authorities. Now that it is my turn to stand before you I find myself at a peculiar disadvantage, for I have no pet subject upon which I can discourse, unless it be systematic ornithology, which is a dull topic upon which to air one's views. I have determined, therefore, to revert to the old custom and, while attempting to give you a *résumé* of ornithological events during the past Session, I shall conclude my address by mentioning a few subjects to which your energies and talents may be directed in the near future.

In reviewing the chief ornithological events of the past twelve months there is one which stands out above all others, at any rate to those of us who are engaged in systematic work—I refer to the acquisition by the American Museum of Natural History, New York, of Lord Rothschild's immense private collection. The passing of this collection across the

Atlantic is unquestionably a terrible loss to this country, but as it had, unfortunately, to leave Europe, we may congratulate ourselves that it has remained intact, and that every endeavour will be made by its new custodians to make it as accessible as distance will allow to European workers. The members of this Club, in particular, have cause for sorrow, as Lord Rothschild has for many years exhibited his treasures at our meetings, and has contributed more than anyone else to our enjoyment and interest by so doing.

I would next emphasize the valuable work which is being done in the field, particularly by the members of this Club, for it shows that, despite the depressing time through which our country is passing, the enthusiasm for our favourite science, far from showing signs of flagging, is very much the reverse, and the members of the B. O. C. and B. O. U. have been advancing the cause of ornithology in many far distant parts of the world.

EUROPE.

Turning first to Europe, I would draw your attention to what is taking place in Great Britain, and would point to the general and constant increase in good field-work. Many observers are taking more care, and are making detailed observations in a more and more scientific way. It would be invidious, where so much progress has been made all round, to pick out particular items for notice, but I may, perhaps, be allowed to quote as an instance—where many are involved—the Great Crested Grebe Census. Although this was carried out in the field in 1930 and 1931, the results were not published until 1932, so its success or otherwise could not be decided until now.

In the opinion of those best able to judge it is certainly a very outstanding piece of co-operative field-work, and is comparable with the Heron Census. Messrs. T. H. Harrisson and P. A. D. Hollom, the organisers of the scheme and authors of the report, deserve the greatest praise, and the fact that no less than 1300 observers helped proves a very widespread interest. Moreover, the returns sent in from this large number showed a high average of accuracy in observation. The report (published in 'British Birds,' August to November, 1932) is very well drawn up and the result most valuable.

It is, I think, obvious that a co-operative piece of field-work on one species, on a national scale, as in this case, *if properly carried out*, has results of inestimable value. The danger is that such enquiries should be attempted by individuals without sufficient knowledge and forethought, and the British Trust for Ornithology, which we hope soon to see established, should, in future, provide a centre for the control of such work.

Of a different nature, but proving how meticulous has become the work on a single species, I may instance the observations carried out upon the British Willow-Tit, the results of which afforded the members of this Club a most instructive evening last month. This work was undertaken by Mr. Harry Witherby and others last year. Another piece of meritorious field-work was carried out by Mr. Lack on the breeding-habits of the European Nightjar (Ibis, 1932, p. 266).

Mr. Witherby's ringing-scheme continues to provide most valuable information, the cumulative results becoming more important as more data is amassed.

Two events of outstanding interest to British ornithologists have been recorded :—The publication by the Rev. F. C. R. Jourdain of the fact that the Honey-Buzzard has again become a regular breeding species in our island (Bull. B. O. A. 1932, no. 35, and Bull. B. O. C. liii. 1932, p. 45), and the definite discovery of the breeding of the Redwing in Scotland by Mr. A. H. Daukes (Brit. Birds, xxvi. 1932, p. 132).

Many of our members have, as usual, devoted their attention to work in distant lands. Following their tour to Albania in the spring of 1931, Dr. C. B. Ticehurst and Mr. Hugh Whistler visited Portugal in 1932, and added to our knowledge of that imperfectly known country. They have prepared a paper for 'The Ibis' which will appear shortly. That on the results of the Albania expedition was published in the January number this year. This makes the seventh report on seven consecutive trips which Dr. Ticehurst and Mr. Whistler have made together, each of which has added largely to our knowledge of the birds of Southern France, the Pyrenees, North and North-West Spain, the Balearic Islands, Albania, Jugoslavia, and Portugal—a record of which they may be justly proud.

Dr. James Harrison made an expedition in the spring of 1932 to Bulgaria, where he found plenty of interest in the bird-life, and has given us an interesting report in 'The Ibis.'

Messrs. B. W. Tucker and W. B. Alexander paid a flying visit to the Camargue, a locality from which there seems little more to learn. I may, however, draw attention to the better arrangement of the Camargue as a nature reserve, particularly as a centre for the ringing of migratory birds.

In the Mediterranean Captain P. W. Munn has continued his valuable work on the avifauna of the Balearic Islands where he is a resident.

Lt.-Col. Meiklejohn visited Corsica during the spring for the purposes of collecting, and afterwards went to Switzerland.

While dealing with Southern Europe, although not coming strictly within the scope of this review, I would here like to draw your attention to the important announcement made by Lord Howard of Penrith in a letter to 'The Times' of Wednesday, December 14, 1932. In it he announces that, by order of Signor Mussolini, the Island of Capri has been decreed a bird sanctuary, with severe punishment for killing any birds throughout the year.

It seems, as 'The Times' says in a leading article, that Signor Mussolini's sympathy was quickened by reading the preface to Dr. Axel Munthe's popular book 'The Story of San Michele.' It is an announcement which will give great pleasure in this country, and upon which we may heartily congratulate our Italian friends.

Col. Meinertzhagen has, since his return from his Saharan expedition, made two visits to the Hautes Pyrenées, with a view to obtaining collections of birds and plants from high altitudes. In this he was successful.

Turning now to colder climes, Mr. David Lack and Mr. G. C. L. Bertram went on an expedition last summer to Bear Island, where they spent seven weeks, and made many interesting observations concerning which we shall hear more to-night. Their investigations are of particular importance, as previous workers have concentrated on the southern half of the island, whereas Mr. Lack and his companion worked the flat and water-sodden north. 1932 appears to have been an abnormal year for weather, with interesting results on the fauna, including the discovery of several new breeding-species, but I must not anticipate what Mr. Lack will tell us himself. The full report on this trip will appear shortly in 'The Ibis.'

Spitsbergen was visited during the period under review by Captain J. H. McNeile and Mr. E. S. Steward, who chartered a boat from Norway. They failed to find the Knot breeding, but added a new species to the Spitsbergen list, and revisited the Barnacle-Goose colony discovered in 1931. Captain McNeile also paid a short visit to Central Spain.

A Cambridge University Expedition (which included Mr. B. Roberts) visited South-West Iceland, and although the members did not specialize in ornithology, they did some work in exploring the Yokull districts which is valuable, though largely negative. A paper on the results of their ornithological observations is in preparation for 'The Ibis.'

Dr. Tom Longstaff, who you will remember was the leader of a former Oxford University Expedition to Greenland, made a short trip to that land last July and August, travelling from the extreme south to the Cap north of Disko, and, I am glad to say, has promised to give us the result of his experiences at our next meeting.

Mr. F. Spencer Chapman made a number of observations on the birds of Greenland when in that country last year with the British Arctic Air Route Expedition, but has not yet had time to publish his results. Mr. Chapman is again wintering in East Greenland, and we shall hope for some valuable data from him on his return.

ASIA.

Turning to Asia, M. Jean Delacour, who is a well-known member of our Club, has again visited Indo-China, this time turning his attention to South Laos, which adjoins the Frontier of Siam. I can assure M. Delacour that his work in that country has been followed with the greatest interest. It may not be known to all of you that our National Collection has benefited to a very great extent from the six expeditions which M. Delacour has now completed in the different provinces of Indo-China since 1923, and I would like to take this opportunity of congratulating him on the many sensational discoveries he has made in that wonderful country. The publication, in his collaboration with M. P. Jabouille, of four fine volumes, 'Les Oiseaux de l'Indo-Chine Française' (1931), is a fitting climax to his investigations, for the amassing of material in museums is of no value unless the results can be given to the world.

The Legendre Expedition to Indo-China was accompanied by Mr. T. D. Carter, of the Mammal Department of the American Museum, and although the collecting of mammals was his principal object, Mr. Carter secured 406 specimens of birds.

The Dolan Expedition to East Tibet (hinterland of Tatsienlu) was accompanied by two German ornithologists, Dr. Hugo Weigold and Herr Ernst Schäfer. They collected chiefly big game, but also some 900 birds, which will be studied in Philadelphia.

The Mission Automobile Citroën through the Pamirs, Mongolia, and China has not so far obtained any bird collection of importance.

In India, the Vernay Survey of the Eastern Ghats has been completed. The large and valuable collections have been worked out by Mr. Hugh Whistler, who is publishing a series of important papers on Indian ornithology in the 'Journal of the Bombay Natural History Society.'

Mr. Frank Ludlow worked for 18 months in Chinese Turkestan, and although his investigations took place previous to the period we are reviewing, his activities have hitherto escaped the special mention which they so richly deserve. His important paper on this region will appear in 'The Ibis' for next year.

Renewed interest, after a long interval, is perceivable in Burma, where Messrs. J. K. Stanford and H. C. Smith (both members of the B. O. U.) are working up their respective districts.

Lord Cranbrook accompanied Captain Kingdon Ward, the well-known plant-collector, in his last expedition to the

Adung Valley in North-East Burma on the borders of Yunnan. A small collection from a locality in which birds had not previously been obtained has been divided between our National Collection and the Field Museum, Chicago.

AFRICA.

Africa has, as usual, been the centre of much activity. Apart from visiting ornithologists, we have a number of first-rate field-naturalists resident in the country, and their numbers are greatly increasing.

Of the more prominent workers, Admiral Lynes has set us a wonderful example of what can be accomplished by a man whose watchwords are " thoroughness " and " energy." His published work on the genus *Cisticola* has now been in our hands for more than two years, but, not content to rest on his laurels, he made, in company with Mr. Willoughby P. Lowe, yet another journey to Africa, this time to Southern Tanganyika, where a survey of the avifauna of the Iringa Province, not forgetting the Fantail-Warblers, was successfully undertaken. We look forward to the report on this expedition, which is now being prepared.

Mr. G. L. Bates has enhanced his reputation as a naturalist and collector by yet another journey in West Africa—this time penetrating into the Southern Sahara, including the desert north of Timbuktu. His collection of over 1000 birds, most of which have been purchased by the British Museum, has added greatly to our knowledge. It was my privilege to speak of these birds at our first meeting this session, and I must refer those interested to the account of his journey which was published in the October ' Bulletin,' pp. 5–12.

Mr. Jack Vincent, who accompanied Admiral Lynes in his expedition from the Cape to Angola in 1930–31, returned to Africa in November of last year, on behalf of the British Museum, to make a widely representative collection from Portuguese East Africa. I am glad to welcome him here to-night, and to congratulate him on the success of his undertaking. His collection from a country which had hitherto been little known ornithologically, has bid fair to rival any which have been received at the British Museum for many years, both in the excellence of the skins and in the information contained on the labels. It is too early yet to speak of the full results achieved, but that difficult country has been combed of its secrets, and Mr. Vincent has proved himself to be a collector of quite outstanding ability and discrimination, of whom we shall expect much in the future.

Mr. R. E. Moreau is continuing his work in the Usambara Mountains of Tanganyika. His collections have contained many novelties, and the results are now being published jointly by himself and Mr. W. L. Sclater in 'The Ibis.' I shall not, therefore, need to say more here, but I would like to call attention to the excellence of Mr. Moreau's field and ecological notes, which show the care devoted to the subject by both the collector and his wife.

Mr. Arthur S. Vernay is a member of the Club whose activities in the field in the cause of ornithology are too well known to need comment. A generous benefactor of the British, New York, Chicago, and Transvaal Museums in particular, Mr. Vernay recently undertook an expedition planned on a gigantic scale to survey the Kalahari Desert. Every branch of natural science seems to have been represented in the expedition. In addition to himself, the principal ornithologists were Austin Roberts of the Transvaal Museum and Herbert Lang, once of the New York Museum. Immense collections were formed, and over 3300 birds obtained. These were worked out in the Transvaal Museum by Mr. Roberts, who described no less than 42 as new. The collections were finally divided between the museums already mentioned, the share of the British Museum proving a very valuable addition to the National Collection. I have, with Dr. P. R. Lowe's permission, arranged for a selection of the new birds described to be exhibited at our next meeting (in January), at which Mr. Vernay has promised to give us an account of his experiences, provided he returns from America in time.

Colonel R. Meinertzhagen made an expedition in February and March, 1931, to the Sahara. His object was to arrive at some idea regarding the origin of life in the Ahaggar Mountains, for which purpose he travelled by car from Algiers to Tamarasset, where he changed to camels and explored the high plateaux. 3000 zoological specimens and about 600 botanical specimens were collected. It is hoped to publish the results of this important expedition next year, and although it does not come strictly within our period, it has not hitherto received notice, and I have a special reason for mentioning it to-night.

Captain C. R. S. Pitman is devoting himself energetically to the study of Rhodesian birds, having been transferred to that country from Uganda. His re-discovery of Chaplin's Barbet on the Northern Rhodesian Plateau is an event of great interest, and settles the disputed question that this bird is not a hybrid. His study of the breeding-habits of African birds, published in the 'Oologist's Record' and elsewhere, is of inestimable value to all African workers.

In West Africa a host of excellent field-workers have been discovered, and are slowly being roped within our Union. It would be invidious at this stage to mention names, but the result of their observations is being embodied in my volumes on the 'Birds of Tropical West Africa.'

I cannot, however, refrain from mentioning the excellent work in oology carried out by Mr. Boughton-Leigh and Mr. Ronald Shuel in Nigeria. The former has, unfortunately, left the Coast, but his companion, with the valuable assistance of Mrs. Shuel, is carrying on the good work in Nigeria at the present moment, and we shall hope to see another paper from these authors on the lines of the one published by them in 'The Ibis' for July 1932.

Major R. E. Cheesman is still resident in Abyssinia, and I hope to persuade him to give us the result of his experiences with the birds of that country when next he comes home on leave.

Dr. James P. Chapin, a member of our Union, returned in May 1931 from the Belgian Congo, where he went on behalf of the American Museum of Natural History, New York, of which he is an Associate Curator of Birds, to obtain the materials needed for a bird-group showing the forest along the banks of the Congo River near Lukolela, with the more characteristic birds. The gathering of vegetation, together with the necessary photographs, sketches, and plaster-moulds, took a great deal of time, so his collection of birds was not large, and comprised only 653 specimens. A popular account of Dr. Chapin's experiences appeared in 'Natural History' for 1931.

PACIFIC AND CHINA SEA.

An Oxford University Expedition (Messrs. T. H. Harrisson C. H. Hartley, and others) left in the summer (1932) for exploration work in Borneo, from which we may expect interesting results.

Mr. W. F. Coultas has been carrying on the work of the Whitney South Sea Expedition during the past year in New Britain and New Ireland.

The Heinrich Expedition to Celebes continued the exploration of the island, visiting South Celebes and the hitherto unexplored mountains of South-east Celebes, and discovering there a good many novelties which have mostly been described by Dr. Stresemann in the 'Ornithologische Monatsberichte.' The expedition returned last May with 7000 bird-skins and 1000 mammals.

The Stein Expedition (Georg Stein and his wife) explored the Weyland Mountains in western New Guinea, and travelled from there to the islands of Timor and Sumba, where they worked from January to June 1932. The expedition came back to Europe in September with some 5000 birds and 1000 mammals.

AMERICA.

In the West Indies and America ornithological work has, as is natural, been undertaken almost entirely by Americans. As an exception to this I may mention that Sir Charles Belcher, well known for his work in Nyasaland and Cyprus, is now Chief Justice in Trinidad, and has already made valuable observations on the breeding-habits of birds in that island.

Trinidad was visited by two Americans, Messrs. W. W. Bowen and Radcliffe Roberts, in the summer of 1931, but they returned, I believe, just before the period I am reviewing.

An event of great interest in the West Indies was the re-discovery of a live specimen of the Capped Petrel or Diablotin (*Pterodroma hasitata*), which species figures as "probably extinct" in the 'A. O. U. Check List' of 1910!

It has been reported from time to time as having been seen since that date, but the capture of a living bird has now set all doubts at rest. I may mention that no less than 100 were said to have been seen over the town of Moca, in San Domingo, in May 1928, a fact that did not receive the attention it deserved.

Our American colleagues have not been idle, although the present depression has certainly curtailed expeditions from American museums. In addition to those which I have already mentioned under other headings, the Philadelphia Academy sent Mr. J. A. G. Rehn to Matto Grosso, Brazil, with the Johnson Expedition. Mr. Rehn returned last spring with very extensive collections, including birds, and Mr. A. M. Olalla has also been collecting in Brazil on the Rio Tocantino for the American Museum.

Mr. H. S. Swarth, of the Philadelphia Academy of Sciences, paid a visit to the Galapagos Islands, returning, I believe, during the summer of 1931. You know, of course, his 'List of the Birds of the Galapagos,' and this trip was made with the aim of obtaining a personal acquaintance with the birds he had long been studying.

Mr. J. Van Tyne, of the University of Michigan, made an ornithological expedition to Guatemala.

Concluding Remarks.

I have now attempted to bring before you, Ladies and Gentlemen, a picture of what has been going on in the world of ornithology during the past year: it is a record in which our own nation, and in particular the members of this Club, have taken a most prominent part. There is one aspect which I particularly desire to emphasize—the importance of co-operating in our work with that great and powerful Society the Royal Geographical. We are exceedingly fortunate in that both the Honorary Secretaries of the R. G. S. are ornithologists of standing—the Senior Secretary, Dr. Tom Longstaff, is our Guest of Honour to-night, the other is the President of our Union Mr. W. L. Sclater. They can do a very great deal while holding office to see that every expedition leaving our shores is properly equipped with an ornithologist. Geographers cannot all hope to be ornithologists, but ornithologists worthy of the name should all, to my mind, be geographers (taking that word—as the Presidents of the R. G. S. do—in its widest sense). Geography is a subject to which it is impossible for an ornithologist to attach too much importance, for it embraces the study of the natural features of the earth upon which, to a very large extent, the distribution of birds (and plants) depends. In the excellent address which a past Chairman of this Club (Dr. Percy R. Lowe) delivered to you in 1928 he suggested that the time was close at hand when purely systematic work should make way for the larger biological problems. He pointed to the fact that, despite a huge output of ornithological work (to quote his own words), " . . . in all probability at least ninety per cent. of that work has been taken up entirely with nomenclature, species, and subspecies." That was no doubt true of the year he was reviewing, but it is most certainly not so to-day. Inspired, perhaps, by Dr. Lowe's words, there has been a great advance in the standard of work produced, and on all sides we note that ornithologists are bringing wider aspects to bear on their investigations. I am not one of those who believe that skin-collections are not required any longer, but I do urge you to make all the use you can of the vast material we have already accumulated. Those of us who work on African birds were stimulated in this respect by a splendid article written some years ago by Dr. James P. Chapin, of the American Museum, on the ecological aspects of bird distribution in Africa—a contribution to our science which has had a pronounced bearing on African literature published since 1923, and one which raised the author's reputation, on this side of the Atlantic, to a very high level. In 1926 Professor Einar Lönnberg, of Sweden, published a most instructive treatise on 'The Development and Distribution of the African Fauna in connection with, and depending upon, Climatic Changes.' I instance these papers to show what can be done by those who combine a wide knowledge of ornithology with the teachings of geography. Let us by all means be inspired by their work, but do not let us leave it entirely to ornithologists of other nations.

Now, one final word and I have done. It is usual for your Chairman to mention in his annual address the most important publications in ornithological literature which have appeared in the course of the past year. This I do not intend to do to-night for the simple reason that I have already taken up too much of your time, and we have a lantern-lecture to follow. I shall publish a list of the outstanding books which have appeared, but, as I shall have, through want of space, to ignore papers published in the numerous scientific journals, I should like to take this opportunity of complimenting Dr. Percy R. Lowe on the exceptionally valuable research work he has done during the last two sessions on the anatomy of birds. His "Anatomical Review of the Waders" is, I venture to say, a monumental piece of work which systematists, and those engaged upon the compilation of Check.lists (on either side of the Atlantic) can ill afford to ignore. I most heartily endorse Dr. Lowe's plea that other workers should come forward in this field. If not themselves anatomists—and we have not all had the required training in this respect—they can at least help very materially, when on collecting expeditions, by bringing home really good specimens in spirit to aid investigations in this most necessary branch of our work.

Finally, I should like to express my grateful thanks to those gentlemen, both at home and abroad, who, by their special knowledge, have assisted me in drawing up what I fear must be a very inadequate review of the year's work.

LITERATURE, 1931–1932.

A.O.U. Check-List, 1931.

CALDWELL, H. R. and J. C.—South China Birds. Shanghai, 1932.

CAYLEY, N. W.—What Bird is That? A Guide to the Birds of Australia. Sydney, 1931. [In this volume every species of Australian bird is figured in colour, which should prove most valuable for purposes of identification.]

DELACOUR, JEAN, and JABOUILLE, P.—Les Oiseaux de l'Indo-Chine Française. 4 vols. Paris, 1932. [Embodying the results of J. Delacour's expedition in the field, and bringing our knowledge of French Indo-China fully up to date.]

Hachisuka, Hon. M.—The Birds of the Philippine Islands. Vol. i. Galliformes—Pelicaniformes. London. [Containing Parts i. and ii., issued respectively in March 1931 and Sept. 1932.]

Hartert, Dr. E.—Die Vögel der paläarktischen Fauna Ergänzungsband. Heft 1. Berlin, 1932. [The first instalment of additions to his great work. The first part, issued in August 1932, deals with those species dealt with in his first volume up to the end of the Fringillidæ. When completed, this will bring Hartert's three volumes completely up to date.]

Koenig, Prof. Dr. A.—Katalog der Nids-Oologischen Sammlung im Museum Alexander Koenig. 4to. 3 vols. text and 1 vol. pls. (18 col. pls. of eggs). [A catalogue of the author's egg-collection, containing some beautiful coloured plates of rare eggs and much material in the text for distributional study.

Legendre, M.—Monographie des Mésanges d'Europe.

Molineux, H. G. K.—A Catalogue of Birds. Supplement, giving their distribution in the Western portion of the Palæarctic Region. [This Supplement, with Index and Appendix, completes Mr. Molineux's most useful work.]

Moody, A. F.—Wild-Fowl and Game-Birds in Captivity. [A valuable contribution to the study of Aviculture.]

Nicholson, E. M.—The Art of Bird-watching.

Peters, J. Lee.—Check-list of Birds of the World. Vol. i. Cambridge, Mass., 1931. [This most important work covers the orders Rheiformes to Falconiformes.]

Rowan, Prof. W.—The Riddle of Migration.

Schüz and Weigold, Drs.—Atlas des Vögelzugs. [A most important compilation, which includes the mapping of all results of bird-marking in the Palæarctic.]

Siewert, Horst.—Störche. [A beautifully illustrated monograph of the life-history of the Black and White Storks. The photos are quite excellent, and the life-histories are from original observations.]

Stead, E. F.—Life-histories of the Birds of New Zealand. 1932.

Taka-Tsukasa, Prince.—The Birds of Nippon. Japan, 1932. [Part i., dealing with the Galli, was issued in August 1932, and will, when completed, be the standard work on the birds of the Japanese Empire.]

Ticehurst, Dr. C. B.—The Birds of Suffolk. 1932. [This is a most valuable addition to our county faunas, and deals comprehensively with the birds of that important part of England.]

Note.—Only the most important publications up to the date of going to press are noticed in the above list.

The CHAIRMAN introduced Dr. T. G. Longstaff, a Guest of the Club for the evening, and said:—

Dr. Longstaff is too well known to need any introduction from me. His fame as a mountaineer is world-wide. He was the Medical Officer and Naturalist to the Second Mount Everest Expedition, and Leader of the Oxford University Expedition to Greenland in 1928. Now he is the Senior Honorary Secretary of the Royal Geographical Society, and in his joint capacity as ornithologist and geographer I have prevailed upon him to say a few words to us to-night.

Dr. LONGSTAFF then made a brief speech. In this he stressed the importance of ornithologists equipping themselves with a knowledge of geography before they set out on their expeditions. He pointed to the advantages which would accrue from such knowledge, and assured the members of the British Ornithologists' Club that they could count on the support of the Royal Geographical Society—and of himself in particular—where ornithological and geographical research work could combine.

The CHAIRMAN then called upon Mr. David Lack to give an account of his experiences on Bear Island, and said, in introducing him:—

Mr. David Lack, who is a past President of the Cambridge Bird Club, is already known to many members of this Club. His paper in 'The Ibis' for last April on the breeding-habits of the European Nightjar, to which I have already alluded in my address, will be fresh in the minds of many of you, and stamps him as an observer of exceptional ability. His powers of observation you will have an opportunity of appraising to-night, as he is going to give us an account of an expedition to Bear Island, upon which subject I will now ask him to address you.

Mr. LACK then read his paper 'The Birds of Bear Island':—

As the ornithological results of the Cambridge Expedition to Bear Island are being published in full in 'The Ibis' I propose to-night to deal only with the more interesting features. Mr. G. C. L. Bertram and myself stayed from

June 20 to August 10, 1932, on the island in order to study the animal life. We are extremely grateful to the Royal Geographical Society for its support, and I should like especially to thank Dr. T. G. Longstaff, who is here to-night, for the trouble which he took in giving us much most valuable advice and information.

Bear Island is about twelve miles long by nine broad, and lies in the Barents Sea, some 240 miles north of Norway and 120 south of Spitsbergen. Mount Misery (1800 feet) is the highest point, and in the south are cliffs over 1400 feet high. Most of the island is a barren plateau with numerous lakes. The temperature in summer keeps for the most part above freezing-point, but the climate is spoilt by the frequent fogs. In fifty-two days we had only five which were sunny, and twenty-two when the visibility was limited to thirty yards. This made bird-photography difficult, which was the more unfortunate as most species were extraordinarily tame. This the slides which I am showing testify, for all were taken without a "hide" of any sort.

The ground was in many places almost devoid of vegetation, and insect-life was sparse. But the sea-bird colonies had a marked effect, their guano supplying nutriment which was absent elsewhere, with the result that both plants and insects were often abundant, and the plants of much richer growth.

During our stay we saw forty species of birds, of which six are new to Svalbard (Spitsbergen and Bear Island). Probably twenty-three species were breeding, of which three—Starling, Great Northern Diver, and Herring-Gull—have not been found breeding in Svalbard before.

The Snow-Bunting (*Plectrophenax n. nivalis*) was the only common land-bird, but we also found one pair of Starlings (*Sturnus v. vulgaris*), this being the farthest north that this species has been found nesting. Unfortunately, though a nest was built, no eggs were laid, probably the effect of the late season. The Mealy Redpoll (*Acanthis f. flammea*) may also have been breeding, an adult female being seen on July 20, and a juvenile being shot on July 24. This is a new species to Svalbard.

The Northern Eider (*Somateria mollissima borealis*) was much the commonest duck. It has been stated that this species deliberately nests among Arctic Terns (*Sterna macrura*), since the latter can drive away their enemies, the Arctic Skua (*Stercorarius parasiticus*) and others. This was not true on Bear Island. Both Eider and Tern seem to prefer lake islands, which are inaccessible to Arctic foxes, and hence the two birds were often nesting together. But Eiders did not nest among Terns on the mainland. Further, so long as the Eider was sitting the Skua seemed unable to take her eggs, and took only deserted ones.

Long-tailed Ducks (*Clangula hyemalis*) and, apparently, Common Scoter (*Melanitta n. nigra*) were also breeding, but we failed to find any nests of the latter. A single pair of Tufted Duck (*Nyroca fuligula*) were also apparently breeding, but our other work gave us too little time to find the nest. This is, apparently, the farthest north that this species has been found.

The Purple Sandpiper (*Calidris m. maritima*) was common round the lake-shores. This bird has a most striking "injury-feigning" performance. When flushed from the nest it usually fluffs out its feathers, droops its wings and tail, and rushes round and round, uttering a characteristic call. An alternative performance is to run, with frequent halts, holding out first one wing and then the other, while uttering a different call from that of the first performance. The second performance is like the "broken wing trick" of so many Waders. The first is similar to what I have seen in the Ringed Plover (*Charadrius h. hiaticula*) when flushed from the nest (and also when courting). We were interested to observe that both these performances, usually termed "injury-feigning," figure prominently in the bird's courtship, especially the "broken wing trick." It therefore seems probable that both are associated primarily with the expression of emotion, and that in "injury-feigning" the bird is distracted and scarcely conscious of what it is doing. We once observed a Purple Sandpiper vigorously "feigning," although its offspring were fully fledged and able to fly, which also suggests the performance is not intelligent.

The Arctic Skua, which was common on Bear Island, also has a striking "injury-feigning" performance, settling close to the intruder and flapping hard with its wings. So elaborate a performance, if true "injury-feigning," could scarcely have been evolved unless it were against some natural enemy. Excluding man, who has only recently colonised these regions, and is still scarce, the only enemy is the Arctic Fox. On two occasions we saw one of the latter near a Skua's nest. In neither case did the birds attempt to feign injury, but swooped fiercely at the fox's head until it was sufficiently removed from their nest. This suggests that for this species also the feigning was not evolved primarily as a defensive mechanism, and it seems extremely doubtful if it is of any use at all. I have expressed a similar conclusion for the Nightjar elsewhere (Ibis, 1932, p. 266.)

We found several nests of the Grey Phalarope (*Phalaropus fulicarius jourdaini*), of the Red-throated Diver (*Colymbus stellatus*), and two of the Great Northern Diver (*Colymbus immer*), this being the farthest east that this species has bred.

The Glaucous Gull (*Larus hyperboreus*) was much the commonest gull, but there were also some thirty pairs of Great Black-backed Gulls (*L. marinus*) and seven of Herring-Gull (*L. argentatus*). The two latter species were not found breeding by Koenig in 1908, and only two pairs of the Great Black-backed Gull by the Oxford University Expedition of 1921. Clearly they have colonised Bear Island only of recent years, like the Starling and Tufted Duck, which have also not been recorded breeding there before. This indicates that the increase of such birds as the Starling, Tufted Duck, and Great Black-backed Gull in Britain is not a purely local phenomenon.

Early in our stay we saw an immature gull with the black wing-tips like a Herring-Gull, but a white mantle like a Glaucous. We concluded it must be a hybrid, and later we were fortunate in finding a nest with one parent of each of these species. The three eggs were fertile, but two, which I am exhibiting, failed to hatch. The chick hatched from the other egg is in the British Museum. We could not obtain the parents, because they had selected a steep cliff over which to breed, but the eggs were the size of a Herring-Gull's, so presumably the latter was the hen.

The most interesting of the cliff-birds, and easily the commonest birds on the island, were the Guillemots. Both the Common (*Uria aalge hyperborea*) and Brünnich's (*U. l. lomvia*) were in countless thousands, not only crowding every ledge on cliffs, which in places were 1400 feet high, but in places overflowing on to the flat areas above the lower cliffs. The two species occurred side by side, often touching. Eggs and young not infrequently got interchanged during scuffles among the parents, and it is impossible to believe that the two species keep their offspring separate. One slide shows a parent attempting to brood ten young at once, in the absence of its neighbours. Others had adopted what could only have been last year's eggs. It seems that the bird will sit on anything within reason, if given the opportunity.

The Common Guillemot of Bear Island was described as a distinct subspecies (*Uria aalge hyperborea*) by Salomonsen (Ibis, 1932, p. 130). In its distinctive features it approaches Brunnich's Guillemot. A further link, not mentioned by Salomonsen, and almost invisible in a skin, is the thin white line along the edge of the upper mandible, as shown in the slide. It was apparently present in all the Bear Island Common Guillemots, although variably developed. (It is seen in all our photographs.) The many intermediate characters of *U. a. hyperborea* suggest that *U. l. lomvia* is, perhaps, the most northerly geographical race of *U. aalge*, and not a distinct species. It is conceivable that the two interbreed on Bear Island, though this would be extremely difficult to prove.

In addition to the above, the following breed on Bear Island :—Fulmar (*Fulmarus g. glacialis*), Kittiwake (*Rissa t. tridactyla*), Razorbill (*Alca torda*), Norwegian Puffin (*Fratercula a. arctica*), Little Auk (*Alle a. alle*), and Spitsbergen Ptarmigan (*Lagopus mutus hyperboreus*).

The avifauna has much in common with that of Spitsbergen, though there are no Geese, King Eiders, or Ivory Gulls breeding. Further, there are several southern species which do not breed on Spitsbergen : Starling, Scoter (has bred once on Spitsbergen), Tufted Duck, Great Black-backed and Herring-Gulls, Razorbill, and Common Guillemot.

Perhaps our most interesting observations concern the effects on the breeding birds of the extremely late summer of 1932. Not only did the birds begin to lay late, but in most species some 60 to 80 per cent. did not breed at all, though a few, such as Snow-Bunting and Arctic Tern, were almost unaffected. Though seldom previously reported, this seems a normal effect of a late season in the Arctic. The explanation seems to be that the snow and ice melt so late that the birds are no longer in breeding condition when suitable nesting-sites are available. Professor Bissonnette and A. P. R. Wadlund (Journ. Exp. Biol. ix. 1932, p. 339) have shown that increased light brings the Starling into breeding condition, but, however favourable the environment remains, the bird eventually regresses. Should it be unable to nest until after regression has set in it cannot lay at all, and this is what appears to happen in a late season in the Arctic. I hope to publish my observations on this point in full later.

The Rev. F. C. R. Jourdain congratulated Mr. Lack on the success of his trip.

The southern half of Bear Island (he said) had been worked fairly thoroughly by the Oxford University Expedition of 1921, and, though they were only ten days on the island, the long period of daylight enabled a great amount of work to be got through. He thought, however, that scarcely sufficient justice had been rendered to the work of the Swedish Expedition of 1899. They remained about the same time on the island as Mr. Lack's party, and Swenander's work on the birds was a very useful and thorough piece of work. With regard to the breeding of *Uria aalge hyperborea* and *U. lomvia lomvia* on the same cliffs, Mr. Jourdain pointed out that, although mistakes were no doubt frequently made as to the parentage of eggs, and even young, by the birds, no evidence of interbreeding between the two forms had ever been brought forward, and the fact that these two forms, in many respects so much alike, did not interbreed and intergrade at points where their ranges overlapped provided the strongest evidence that they were two distinct species, and that Brünnich's Guillemot is not the northernmost race of *Uria aalge*.

During Koenig's Arctic expeditions all work at Bear Island was carried out with the yacht as a base, so that only comparatively short distances from the landing-places were explored.

Dr. T. G. LONGSTAFF, Mr. STUART BAKER, Mr. WHISTLER, and the Marquess of TAVISTOCK also discussed the paper.

Mr. D. A. BANNERMAN communicated the following note on the correct name of the West African Hoopoe (*Upupa senegalensis* Swainson) :—

At the suggestion of Dr. Erwin Stresemann I have again re-opened the question of the correct name to be employed for the resident Hoopoe in West Africa. Formerly it was referred to in literature as *Upupa senegalensis* Swainson (1837), but in 'Die Vögel der paläarktischen Fauna,' ii. 1912, p. 870, Dr. E. Hartert stated that in his opinion the type of Swainson's *U. senegalensis*, which is preserved in the Cambridge University Museum, was a faded example of the European Hoopoe (*Upupa epops epops*). There the matter rested. Such is Hartert's deservedly great reputation, that in this country, at any rate, his decision was never questioned, and we find *Upupa senegalensis* relegated by all recent writers to the synonymy of *Upupa epops epops*, and Salvin's name *Upupa somalensis* accepted for the Hoopoe which had formerly been called *senegalensis*, it being an accepted fact that the Hoopoes occurring in Senegal and Somaliland are one and the same species.

It was Professor Neumann, of Berlin, I believe, who first disputed Hartert's finding, and Dr. Stresemann, agreeing with Neumann, wrote to me recently suggesting that I should re-investigate the whole matter. Through the kindness of Mr. F. Parrington, of the Cambridge University Museum, I have been lent the type of *Upupa senegalensis* Swainson, and believe it to be a young bird of the resident tropical African race which is referred to in current literature as *Upupa epops* *somalensis*. Young Hoopoes of the resident species are very dully coloured, and this evidently led Hartert into believing that Swainson's type was faded. Its small size (bill, exp. culmen 46; wing 130; tail 87; tarsus 20 mm.) is, of course, explained by its immaturity, and in point of fact it very closely resembles a young bird recently procured at Ké Masina, in the French Sudan, by G. L. Bates. Both have the inner secondaries banded like *U. epops epops*, but as these birds cannot possibly be young of the European Hoopoe, it follows that young birds of *U. senegalensis* do not have the basal third of the secondaries white until after the first moult. The fact that there is not a trace of white on the crest-feathers is likewise a strong argument in favour of its having been bred in Senegal.

We must in future accept for the West African Hoopoe the name

UPUPA SENEGALENSIS Swainson

('Birds of West Africa,' ii. 1837, p. 114: Senegambia), of which *Upupa somalensis* Salvin becomes a synonym.

Professor Neumann, writing to me under date Nov. 29, 1932, states that "Dr. Hartert quite agrees with me now that the Upper Guinea race (of the Hoopoe) must be called *senegalensis* Swainson." Mr. W. L. Sclater and Mr. G. L. Bates, to whom I have shown Swainson's type, agree with the conclusions I have stated above.

Mr. BANNERMAN further suggested a new genus for the Little (square-tailed) Swift (*affinis* of Gray) formerly included in the genus *Micropus* Wolf, and said:—

The habit of placing the Little Swift (*Cypselus affinis* Gray) in the same genus as the European Swift (*Micropus apus apus*) and other fork-tailed species has long struck me as inconsistent.

The Little Swift is the only species placed by systematists in the *Micropus* group which has a square instead of a truly forked tail, and although it conforms in other respects to the characters of that large genus, I consider that on account of that structural character it may be placed in another genus. As I find that there is no genus available for it, I propose the name

Tetragonopyga, gen. nov.

Type, *Cypselus affinis* Gray.

Mr. G. L. Bates sent some further descriptions of new birds* obtained by himself on his journey to the French Niger and French Sudan in 1931–32 :—

Auripasser luteus tilemsiensis, subsp. nov.

Description.—The light or whitish feather-edgings to the dark inner remiges and the rectrices, which are wide and prominent in *A. luteus luteus*, are narrow and inconspicuous ; the whitish tips also to the wing-coverts, which in typical *luteus* form two imperfect wing-bars, are very slight and little seen. To these differences, which are seen alike in the adult male plumage and in the juvenile and female plumage, may be added that of a brighter and deeper yellow of the yellow parts, and a deeper chestnut of the back, in some adult male specimens of the new race when compared with the corresponding plumage in the typical race.

Measurements.—Wing 61·5–65·5; tail 45–51 mm. Ten specimens measured, including two females which are in size like the smallest males. These dimensions average a little less than in *A. luteus luteus*, in which the males occasionally reach, wing 67 mm.

Distribution.—The edge of the desert near the northernmost part of the course of the Niger, from Timbuktu to Burem. (My specimens from Tillia, north of Tawa, have the prominent light edgings, and should be named *A. luteus luteus.*)

Type.—♂ adult with new body-plumage ; Taberréshat, French Sudan, Sept. 7, 1931. Collected by G. L. Bates, no. 10867, Brit. Mus. Reg. no. 1932.8.6.7.

Remarks.—My hesitation about describing this new race, although the specimens look, even at first glance, sufficiently different from specimens from the Nile, Darfur, and Lake Chad, was due to the difference in the state of the plumage ; for nearly all the many N.E. African ones in the British Museum are in new plumage, and mine have wings and tail more or less worn. But there are enough of mine to show that the difference is not all due to abrasion. The character of the brighter yellow and chestnut colour in some of my specimens would alone be a sufficient one if they all had it in new plumage; but this is a variable character.

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* For previous ones, *vide antea*, pp. 7–12.

Nomenclature of the Races of *Tchagra senegala* in West Africa, with Description of a New Race.

Sclater in a footnote in his ‘ Systema Avium Æthiopicarum,’ p. 627, says of the races of this species, except those of north-eastern Africa, that they “ are not sufficiently differentiated to be of any value, and personally I would retain only *senegala* and perhaps *camerunensis*.” A new study of the many skins in the British Museum, along with some I have recently collected from fresh localities, seems, however, to bring out a fairly definite picture of real geographical variation in West Africa, as follows :—

(1) *T. s. senegala.*—Generally with more or less of a dark streaky mottling on the back. Size : wing 80–90 mm. (the sexes are alike in size in this species). The largest birds measured are the few Senegal specimens. Tail always a very little longer than the wing—up to 100 mm.

Distribution.—All the westernmost region from Senegal to northern Sierra Leone, and eastward to the Upper Niger in the region of Bamako and Mopti.

(2) *T. s. pallida.*—Like the lighter specimens of *T. senegala senegala*, but with little or no mottling on the back. Size : same as in typical *senegala*.

Distribution.—The interior dry parts of West Africa from French Upper Volta or, perhaps, from the interior of the Ivory Coast, eastward to Bornu and Northern Cameroon, and southward to the coast at Accra (the typical locality). It is to the distinction of this race from *T. s. senegala* that Sclater's remark is most applicable.

(3) *T. s. camerunensis.*—Of deep or saturated colour in all parts. Size inclined to be small—wing not over 86, tail not over 90 mm.

Distribution.—From middle or savannah Cameroon or, perhaps, from as far west as Lagos, eastward to Uganda. (The southern border of the West African range of the species.)

(4) *T. s. nothus.*—Paler even than *pallida*, and especially the edgings of the innermost remiges and their coverts very light. Size large, and tail proportionally long: wing 87–95; tail 95–115, generally over 100 mm.

Distribution.—Around Lake Chad and westward in the same latitudes on the border of the Desert to Tawa.

(5) **Tchagra senegala timbuktana,** subsp. nov.

Description.—Lightest coloured race of all; back greyish or hoary-looking; the wide light margins of the inner remiges and their coverts very light, in places almost whitish; underside, and even flanks, almost white; axillaries and under wing-coverts white; more white showing on the bend (wrist-joint) and edge of the hand part of the wing than in the other races.

Measurements.—Size large and tail long (as in *nothus*): wing 91–93; tail 110–112 mm.

Distribution.—Timbuktu only, so far as yet known.

Type.—In the British Museum, ♀ adult; Timbuktu, French Sudan, Nov. 18, 1931. Collected by G. L. Bates, no. 11096, Brit. Mus. Reg. no. 1932.8.6.6.

Nomenclature of the Races of *Mesopicos goertæ* in West Africa, with a New Name.

Since the discovery that Swainson's *Dendrobates poicephalus* is merely a synonym of the typical *Mesopicos goertæ goertæ* of Senegal (see W. L. Sclater's 'Systema Avium Æthiopicarum,' p. 863), the widely extended race hitherto usually known as *M. g. poicephalus* requires a new name. I wish, in giving this name, to review here the other West African races also, as I have recently obtained specimens of the least known ones:—

(1) **Mesopicos goertæ agmen,** nom. nov.

Description.—Characterized by the slight extent and pale shade of the diffused yellow abdominal spot.

Distribution.—From the extreme west of Africa, nearly or quite to the Nile, in the Semi-arid Belt and the western part of the Savannah, but not the driest northern part on the border of the Desert.

Type.—In the British Museum, ♂ adult; from 40 miles east of Wagadugu, Upper Volta, May 24, 1928. Collected by G. L. Bates, no. 9553, Brit. Mus. Reg. no. 1930.3.4.66.

Remarks.—This race has most commonly been known as *poicephalus*, or, as in my 'Handbook,' united with *centralis*. The fact that it is the most widely extended one, or the main body of the species, is intended to be hinted at by the name *agmen*, Latin for *army* or *throng*.

(2) *M. g. centralis.*—Darker coloured on the average, with the abdominal spot more defined and more orange than yellow. Found along the southern border of the range of the main body, from middle or savannah Cameroon to Uganda.

(3) *M. g. goertæ.*—Easily distinguished by the great extent of diffused pale yellow wash on the whole underside.

Distribution.—To the north of the western part of the main body of the species, from Senegal to the Upper Niger at Mopti. Swainson's *poicephalus* is a synonym.

(4) *M. g. koenigi.*—General colour pale, and especially the grey parts; the dark barring distinct, and extending not only over the wings, but more or less over the back also.

Distribution.—To the north of the main body of the species, in the border of the Desert, from Timbuktu through Air and Lake Chad to the Nile valley below Khartum. Though most of Lynes's Darfur specimens belong to *M. g. agmen*, one from Jebel Meidob plainly is *M. g. koenigi*.

Mr. G. L. Bates also sent the following note:—

Mr. James L. Peters, of the Museum of Comparative Zoölogy at Harvard College, Cambridge, Massachusetts, has called my attention to the fact that the name *Charadrius marginatus russatus* (Bull. B. O. C. liii. 1932, p. 10) is preoccupied by *Charadrius russatus* Jerdon (Madras Journ. of Lit. & Sci. xii.

1840, p. 213). The name, therefore, will have to be changed, and I propose that the bird be known as

Charadrius marginatus nigirius *, nom. nov.

Mr. P F. Bunyard exhibited a series of eggs of the British Marsh-Titmouse (*Parus palustris dresseri*), the Northern Willow-Titmouse (*Parus atricapillus borealis*), and the British Willow-Titmouse (*Parus a. kleinschmidti*), and made the following remarks :—

Every clutch of the British Marsh-Tit and those of the British Willow-Tit which I exhibit were carefully identified at the nest, and in some cases the birds were caught and examined, either by myself or by other competent observers.

Clutches of eleven and ten eggs of the British Marsh-Tit are not rare in Yorkshire and Lancashire, but I only once found a clutch of eleven in Kent.

The two clutches of the Northern Willow-Tit's eggs are well marked, like those of our British Willow-Tit, which I have found, from the small numbers examined, to be a constant characteristic, and distinguishes them from those of the British Marsh-Tit, though it will be seen from the series exhibited it would be unwise to rely entirely on this as a means of identifying the eggs.

The eggs of the British Marsh-Tit, on the average, have the markings more evenly distributed, and they are usually more finely stippled; the colour of the markings varies from Chiffchaff (*Phylloscopus c. collybita*) to Willow-Warbler (*Phylloscopus t. trochilus*) red. With the eggs of the British Coal-Titmouse (*Parus ater britannicus*) I have found that the Chiffchaff coloured markings are fairly constant, and even conspicuous when series are placed side by side.

Since the foregoing was written (Mr. Bunyard went on to say) I have received the November 'Bulletin,' and carefully studied the remarks by the various contributors on the question of the Marsh- and Willow-Tit.

I was very much interested in the microscopic examination made by Dr. Percy R. Lowe of the crown-feathers of the two species and the results of his comparative study. I am, however, of the opinion that the report has to a very great extent been robbed of its value owing to the fact that neither Dr. Lowe nor Mr. Witherby has informed us as to which sex the feathers examined belonged, nor is anything said as to the age of the birds or the time of the year at which they were secured.

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* Called after Nigir, the classical form of the name of the River Niger.

Mr. Witherby says of the Marsh-Tit: "This plumage is acquired by complete moult in July–September ('Practical Hand-Book of British Birds,' i. p. 242). Presumably the Willow-Tit goes through a similar moult, which would include the crown-feathers. I suggest that these feathers would be subject to much variation, according to season and age of the bird.

Mr. D. W. Musselwhite is quite wrong in his estimate of the average clutch of the Marsh-Tit. I have already informed you that clutches of 10 and 11 are by no means unusual in Yorkshire and Lancashire, though in the Kentish orchards I should consider them a rarity; much depends on the locality and the climatic conditions prevailing at nesting-time.

Too much importance should not be attached to the general make-up of the nest or to the nesting-materials used. In regard to the former, this depends on the nesting-cavity, and the latter must depend on the material available, the individual taste, and the general environmental conditions.

I know of at least one instance where a Willow-Tit used the old nesting-cavity of a Lesser-spotted Woodpecker, situated in a decayed branch of a greengage-tree, and from which the latter's eggs were taken the previous year. I can find no evidence to support the theory that the Willow-Tit always excavates its own nesting-cavity, and no one ever appears to have seen it doing so.

Dr. P. R. Lowe, in reply, said that the birds he had examined were both adult females, and were both obtained in January.

Mr. A. M. Griffith exhibited an American Yellow-billed Cuckoo (*Coccyzus a. americanus*), apparently a bird of the year, picked up dead in Tresco, Isles of Scilly, Oct. 27, 1932, and secured by Major A. A. Dorrien Smith. It had smashed the front of its skull against the wall of a shed. This is the second of these Cuckoos obtained by Major Dorrien Smith in the Isles of Scilly, an adult having been shot early in November 1921 while sitting on a telegraph wire on St. Mary's Island by a man named Guy. An immature Glossy Ibis (*Plegadis f. falcinellus*) was obtained in the Isles of Scilly about thes ame time as this immature American Yellow-billed Cuckoo.

Mr. Griffith also exhibited a male Noddy (*Anous stolidus*), apparently the first sufficiently authenticated British specimen of this species, though a considerable number have been alleged to have been taken here, some of them almost certainly genuine wanderers to Britain from their mid-Atlantic nesting-places. It was shot by Capt. W. E. Dance at Petsham, near Bexhill, Sussex, as it came up from the lower marsh near the St. Leonard's pumping station, October 29, 1930. He had now acquired it for the Booth Museum.

Mr. Griffith further said that just three weeks ago he saw a White's Thrush (*Oreocincla dauma aureus*) in Queen's Park, one of the public gardens in Brighton. He first saw it on the ground, and it let him get within ten yards of it before it flew up into the lowest branch of a small tree a few yards further off. Then it flew close past him and away to another part of the gardens, and he lost sight of it. On each occasion it flew so near the ground that he could not see the underside of its wings, but it was so close to him that the identification was quite certain. Its flight was even more wavy than that of any of its congeners.

Finally, he referred to the death of Mr. J. Whitaker, of Rainham Lodge, at the mature age of 80, and said :—

With the help of my brothers I am buying his collection of birds, intending to add the rare species to our Booth Museum collection, and to find a home, I hope at Cardiff, for the marvellous collection of varieties.

It would be a very substantial help if I could collect, say, £100 towards this purchase from others, and I am venturing to bring the subject forward here, thinking that we, almost to a man keen collectors, might be glad to contribute to an effort designed (and successfully so) to keep together a collection, the result of a long life's effort, by so well known and valued a collector as the late Mr. Whitaker.

It is thought by some of us that a collection of varieties should, if possible, be kept where it can be readily seen, rather than be reserved for personal handling ; and we are, therefore, looking for a museum with space for exhibiting such a collection, and the trained staff needed to take effective charge of it.

It will be remembered that the rare species include the Egyptian Goatsucker (*Caprimulgus ægyptius ægyptius*), the American Peregrine, or Duck-Hawk (*Falco peregrinus anatum*), a Harlequin Duck (*Histrionicus h. histrionicus*), and many others.

Mr. N. B. Kinnear sent the following descriptions of two new subspecies collected by Lord Cranbrook and Captain F. Kingdon Ward in the Adung Valley, North-East Burma, and presented by them to the National Collection :—

Actinodura nipalensis wardi, subsp. nov.

Description.—Differs from *Actinodura nipalensis waldeni* Godwin-Austen (P. Z. S. 1874, p. 46 : Tapoo Peak, Naga Hills) in the darker coloration of the back, blacker crest, and richer rufous brown of the underside.

Type.—In the British Museum, ♂, March 27, 1931 ; Adung Valley, N.E. Burma, lat. 28° 10′ N., long. 97° 40′ E. Collected by Captain F. Kingdon Ward. Brit. Mus. Reg. no. 1932.12.10.1.

Remarks.—A second specimen was collected in the same valley on April 13.

Grammatoptila striata cranbrooki, subsp. nov.

Description.—Very similar to *Grammatoptila striata austeni* Oates (Fauna Brit. Ind. i. 1889, p. 104 : Dafla Hills), but darker on the mantle and crest.

Type.—In the British Museum, ♀, April 16, 1931 ; Adung

Valley, N.E. Burma, 6000 ft., lat. 28° 10′ N., long. 97° 40′ E. Collected by Lord Cranbrook. Brit. Mus. Reg. no. 1932.12.10.2.

Remarks.—Four specimens examined, all from the same locality.

Dr. P. R. Lowe sent the following communication :—

In the ' Bulletin,' *antea*, p. 14, in my note on the exhibition of a fossil Ostrich which had been found at T'ai Chia Kou, near Pao Te Hsien, in North-West Shansi, on the Yellow River, I inadvertently forgot to give this bird its name. This should have been *Struthio wimani*, called after Professor Wiman, of Upsala, who kindly sent me the fossil (*vide* ' Palæontologica Sinica ' (ser. C), vi. 1931, p. 18).

NOTICES.

The next Meeting of the Club will be held on Wednesday, January 11, 1933, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine must inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

GENERAL INDEX.

Volume III.

This is now ready, and can be obtained from the publishers, Messrs. H. F. & G. Witherby, 326 High Holborn, W.C. 1, at the price of £1 1s. 0d.

Agenda.

1. Mr. P. F. Bunyard will read a short paper entitled "A Few Notes on the Birds of Dunkirk," which he was unable to give on November 9, 1932, through illness.
2. Mr. W. L. Sclater will exhibit some birds from the Kalahari Desert collected by the Vernay-Lang Expedition, and Mr. Vernay, if he arrives from America in time, will make some remarks upon them.
3. M. J. Delacour will exhibit a specimen of a rare bird (*Liocichla omeiensis*) from China, and make some remarks upon the genus.

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXV.

PURCHASED 1933
NATURAL HISTORY

The three-hundred-and-sixtieth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, January 11, 1933.

Chairman : Mr. D. A. Bannerman.

Members present :—Miss C. M. Acland ; E. C. Stuart Baker ; Miss P. Barclay-Smith ; S. Boorman ; Sir J. Rose Bradford ; P. F. Bunyard ; Hon. G. L. Charteris ; J. Delacour ; A. Ezra ; Miss J. M. Ferrier ; W. E. Glegg ; Capt. C. H. B. Grant ; B. G. Harrison ; Mrs. T. E. Hodgkin ; Dr. K. Jordan ; Rev. F. C. R. Jourdain ; Dr. G. Carmichael Low (*Editor*) ; Dr. P. R. Lowe ; Dr. N. S. Lucas ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; T. H. McKittrick, jun. ; Lt.-Col. H. A. F. Magrath ; G. M. Mathews ; D. W. Musselwhite ; J. L. Chaworth Musters ; T. H. Newman ; C. Oldham ; H. Leybourne Popham ; F. R. Ratcliff ; W. L. Sclater ; D. Seth-Smith ; Major A. G. L. Sladen ; Dr. A. Landsborough Thomson ; B. W. Tucker ; Miss E. L. Turner ; H. F. Witherby (*Vice-Chairman*) ; C. G. M. de Worms.

Guests :—Mrs. W. L. Sclater ; W. P. Lowe.

Mr. P. F. Bunyard read a short paper entitled "A Few Notes on the Birds of Dunkerque."

The following is an abstract of this :—

In 1917–1918 Mr. H. F. Witherby, and in the latter year Rear-Admiral (then Captain) H. Lynes, spent a considerable time in the environs of Dunkerque, Nord France, and apparently had good opportunities for observing the birds of the neighbourhood (‘British Birds,’ xii. 1919, pp. 194–205 and p. 235).

I have not much that is new to add to their observations, the principal interest in my remarks being that the conditions prevailing during the War have entirely changed, not only physically but also environmentally. Nearly all the flooded land has now been reclaimed, and the bird paradise, St. Pol, near Dunkerque, has now disappeared.

I was accompanied by Mr. C. F. Stedman, and we are in complete agreement about the following observations:—

We left England on May 7, returning on May 19, 1932. Most of our time was spent along the coast, among the sand-dunes, marram-grass and sea-buckthorn, and partly on the rough ground between the dunes and cultivated land.

Comparatively speaking birds were very scarce, due no doubt to the fact that nearly all the land is highly cultivated, leaving little cover, and, further, there are no commons extensive woods nor copses, and hedges are scarce except at Mardick and Loon Plage.

Considering the bombardments which took place during the War the whole district has made a remarkable recovery.

Many of the common birds were noted, such as Crows (*Corvus c. corone*), Rooks (*Corvus f. frugilegus*), Magpies (*Pica p. pica*), Starlings (*Sturnus v. vulgaris*), etc. Corn-Buntings (*Emberiza c. calandra*) were seen at every inland place visited, though not plentiful. Some birds resembling Reed-Buntings (*Emberiza s. schœniclus*), watched between Petite Synthe and Gravelines differed considerably from the British bird; they appeared larger, the white collar was very conspicuous, and the black head and throat also appeared more prominent. I zuggest that some of these might have been Western Large-billed Reed-Buntings (*Emberiza tschusii compilator*). Nightingales (*Luscinia m. megarhyncha*) were very numerous. They were generally found among the sea-buckthorn, and were in full song, though it was doubtful whether they were going to breed. Little Ringed Plover (*Charadrius dubius curonicus*), which Messrs. Witherby and

Lynes found breeding at St. Pol, were not definitely proved to be present there, due to the fact that the area is now in the hands of contractors. Several were seen about Mardick, and Stedman was able to distinguish the difference between their note and that of the Kentish Plover. They were observed courting and " scrapes " were found. Kentish Plover (*Charadrius a. alexandrinus*) were fairly plentiful, and many nests with the full complement of three eggs were found. Mr. Witherby has suggested that the eggs of the Kentish Plover are intentionally embedded in the sand by the birds when they leave the nest, but no evidence to support this theory was discovered. The favourite nesting places for this species were among the dunes that were open at one part to the sea, and here the nests were sheltered and the sand was firmer. Amongst Waders the Knot (*Calidris c. canutus*), Temminck's Stint (*Calidris temminckii*), Bar-tailed Godwit (*Limosa l. lapponica*), and Curlew (*Numenius a. arquata*) were noted ; the last named were obviously breeding as they were very demonstrative.

Mr. J. Delacour exhibited a specimen of *Liocichla omeiensis* Riley, and made the following remarks on the genus :—

This genus (*Liocichla* Swinhoe, Ibis, 1877, p. 473 : *Liocichla steerii*, from Formosa, coloured plate) was described as follows :—

" In general characters a *Leiothrix*, but with the stronger legs and shorter wings of a *Garrulax*, and somewhat allied to *Sibia*."

It remained monotypic till 1926, when Mr. J. H. Riley described a new species, *Liocichla omeiensis*, from Mt. Omei, Szechwan, W. China (Proc. Biol. Soc. Washington, xxxix. July 30, 1926, pp. 57–58), as follows :—

" Type, adult male, U.S. National Museum, no. 306,163, Si Gi Pin, Mount Omei, Szechwan, China, August 7, 1925. Collected by David C. Graham.

" Forehead, superciliaries, sides of neck and chin raw sienna, with an orange wash ; crown and occiput deep neutral gray, the feathers of the forehead and crown edged with dusky and with a lighter shaft stripe ; remaining upper-parts saccardo olive ; cheeks and lower-parts deep grayish olive, the center of the breast and belly tinged with colonial buff ; under tail-coverts black, each feather rather broadly bordered with lemon chrome and broadly tipped with scarlet ; wing-coverts citrine ; primaries black edged on the outer web and tipped with light cadmium, beginning with the third primary there is a scarlet fringe at the base, increasing inwardly, and the yellow edge is interrupted in the middle by black on the inner feathers ; secondaries black, medal bronze on the outer web basally with a scarlet fringe, then a narrow olive gray border, followed by a rather large scarlet sub terminal spot, the tips narrowly light cadmium ; tertials medal bronze, the two outer with a scarlet spot, margined basally with black, on the outer web at the tip, the inner web with a yellow border at the tip on the outer feather ; bend of the wing light cadmium ; tail saccardo olive, becoming orange-citrine on the outer feather, the central feathers barred with black but this barring only showing as shadow bars on the outer feather, the first feather with a light cadmium tip, the second and third feather with a sub-terminal light cadmium bar and a scarlet tip, the remaining tail feathers with scarlet tips ; tail below aniline yellow.

"Wing, 75 ; tail, 85 ; culmen, 14 ; tarsus, 29·5 ; middle toe, 16 mm.

"*Female.*—Like the male, but largely lacking the raw sienna wash on the forehead, superciliaries, and sides of neck, the scarlet on the wings reduced, and the scarlet tips to the under tail-coverts and tail lacking.

"*Remarks.*—In the six males in the series there is some slight variation. The lores in two are pinard yellow. The black barring on the central tail-feathers in several are more pronounced than in the type and in one the feathers are solidly black sub-terminally."

A small series was obtained by the Rev. David C. Graham, and another one of fourteen specimens was collected in 1930 on the same mountain, Omei-Shan, by Mr. Tsen-Hwang-Shaw (Bull. Fan Memorial Inst. of Biology, iii. 1932, pp. 217–235, Peiping). This species was found to be very local, but not rare there. The present specimen is the first one to reach Europe, and has just been received by the Paris Museum from Washington in exchange for another rare bird.

Obviously this species provides a link between *Liocichla steerii* and the so-called *Trochalopteron phœniceum.* As I have suggested before, this latter species has very little in common with the *Garrulax* group. Its comparatively slender bill and legs, different tail and wing-quills, both in structure and colour-pattern, the head-markings and under tail-coverts remove it from *Garrulax* and bring it, in spite of its larger size, into the genus *Liocichla*, whose principal characteristics may be outlined as follows :—

Bill moderate, resembling in shape that of the *Leiothrix-Mesia-Siva* group ; legs rather long and weak ; wings short, the primaries and secondaries with a brightly coloured and sometimes decomposed border on their outer web, often of two different colours ; tail longer than wings, graduated, the two median pairs of rectrices equal and more or less square at the tip, which is brightly coloured, forming a more or less decomposed terminal band, followed by black ; under tail-coverts strikingly bicoloured, black near the base, yellow or red near the tip, and also more or less decomposed. Sexes similar or very nearly so.

The genus *Liocichla* nearly resembles *Siva*, differing mainly in its larger size, shorter wings, longer legs, and bicoloured under tail-coverts. *Minla*, *Mesia*, and *Leiothrix* are also closely allied genera, the slight differences in their sexes being rather an insignificant character, the importance of which seems to have been so far exaggerated in the general classification of the Timaliidæ.

All the above-mentioned genera, with *Alcippe* and other allied birds, form a natural group or subfamily.

As defined above, the genus *Liocichla* contains the following forms :—

1. *Liocichla steerii* Swinhoe. Formosa.
2. *L. omeiensis* Riley. Mt. Omei, W. China.
3. *L. phœnicea* :
    - a. *L. p. phœnicea* (Gould). Nepal to Assam.
    - b. *L. p. bakeri* (Hartert). Hills south of the Brahmaputra, Manipur, and Lushai Hills.

c. *L. p. ripponi* (Oates). Kachin Hills and Shan States.
d. *L. p. wellsi* (La Touche). S.E. Yunnan, E. Tonkin, and N. Laos.

Although there are striking differences in the colouring as well as in the shape of the median rectrices of the western forms of *L. phœnicea* (*phœnicea* and *bakeri*), and of the eastern ones (*ripponi* and *wellsi*), it seems better to consider them all as subspecies of one species, as specimens from the Kauri–Kachin tract, Upper Burma, in the British Museum are altogether variable and intermediate between *ripponi* and *bakeri*.

I had so far considered the Indo-Chinese specimens as *ripponi*, as I thought that their yellower and brighter hues might have been due to the freshness of the skins and to the season in which they had been collected; but an examination of larger series shows that there is a continuous increase in the intensity of the yellow pigment from west to east. Consequently the name *wellsi* La Touche, Bull. B. O. C. xlii, 1921, p. 15, applied to a specimen from Mongtze, S.E. Yunnan, is also to be used for the Tonkinese and Laotian specimens. A male in the British Museum, collected by P. F. Wickham on March 30, 1925, in the South Shan States, "east of the Salween River," is almost as bright as the birds from the eastern bank of Mekong.

Mr. J. Delacour also exhibited a specimen of *Alcippe variegaticeps* Yen (Bull. Paris Mus. 1932, p. 383) from Yaoshan Mountains, Qwangsi, South China.

Dr. P. R. Lowe contributed the following note on the supposed example of the American Yellow-billed Cuckoo (*Coccyzus a. americanus*) exhibited by Mr. A. F. Griffith at the December meeting of the Club.

He said at the last (December) meeting of the Club, Mr. A. F. Griffith exhibited on behalf of Major A. A. Dorrien-Smith (*antea*, p. 77) a bird which he had identified as the American Yellow-billed Cuckoo (*Coccyzus a. americanus*), and which had been picked up dead on the Isles of Scilly. It was, as he said, an immature bird, and apparently either no one present at the meeting felt competent to confirm

Mr. Griffith in his diagnosis or to refute it, or they took it for granted that the diagnosis had been confirmed.

Since the meeting Major Dorrien-Smith has asked Messrs. Pratt & Sons, of Brighton, who had temporarily mounted the bird, to send it up to the British Museum for further examination. I have carefully compared it with the material available in the Museum, and the conclusion I have come to is that it is an example of the Black-billed Cuckoo, *Coccyzus erythropthalmus* (Wilson) *.

The specimen in question shows undoubted signs of being an immature bird in the pale edgings to its primaries, wing-coverts, tail-coverts, and feathers of the dorsum :

(1) It has the smaller bill of the Black-billed Cuckoo, but the size of bill is an unreliable character.

(2) The tail-feathers are only just tipped with whitish, and on close inspection show on the under surface a ghost-like and subterminal band of darkish, which in the more saturated condition is so characteristic of the adult Black-billed Cuckoo. Moreover, as in the adult the rest of the under surface of the feather is light grey, whereas in the Yellow-billed Cuckoo it is black, or nearly black. In the last-mentioned species, also, the three outer tail-feathers terminate in large and very conspicuous subovate patches of white, and there are no subterminal dark bands.

In neither species are the two central feathers edged with white, but in *C. americanus* the next outlying pair is very narrowly edged with white, while in *C. erythropthalmus* all four outer pairs have white tips, which increase in width as we proceed outwards.

There are differences in the two species in the adult stage as regards the depth of rufous colouring of both webs of the remiges, as well as of the under wing-coverts and axillaries, but in the present stage of our knowledge I think this an unreliable character to go by. For example, in *C. americanus* both webs of the remiges are a bright cinnamon rufous. In *C. erythropthalmus* the red tinge has nearly disappeared, but there are all sorts of intermediate phases correlated with age.

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* Amer. Orn. iv, 1811, p. 16, pl. 28, fig. 2.

Ridgway, 'Birds of North and Middle America,' vii. 1916, p. 11, says: "The sexes in the genus *Coccyzus* are alike and the young not materially different." I find that in a half-grown juvenile specimen of *C. erythropthalmus* (British Museum Collection, Reg. no. 1906, 12.7.777)—which I exhibit—the colour-pattern exactly corresponds with the normal adult specimens, and also with the one in question, so that this renders it certain that the specimen in dispute is an example of the Black-billed Cuckoo.

In a large series of *Coccyzus americanus* in the British Museum Collection no juvenile specimens exist; and I should like to take this opportunity of calling attention to the urgent necessity of collecting juvenile specimens, and even chicks, for inclusion in the systematic collections contained within our museums. The lack of them does more than it is necessary to express here to hamper the progress of systematic work and to handicap our knowledge of the relations of species and species groups *.

Mr. P. F. Bunyard exhibited a clutch of four eggs of the race of Dowitcher (Red-breasted Snipe) described by Rowan as *Limnodromus griseus hendersoni* ('Auk,' xlix. 1932, pp. 14–35). The eggs were taken in Alberta by Professor Rowan on June 5, 1931, and the authenticity of the clutch was beyond doubt as the female was collected off the eggs. A complete clutch of four eggs of *L. g. scolopaceus* had passed through Mr. Bunyard's hands, and were now in the Massey collection, and though those eggs differed considerably from his clutch of *L. g. hendersoni* in the nature and arrangement of the markings, they compare favourably in weights and measurements with those given below.

Oologically he said that the Dowitcher or Red-breasted Snipe was a true Snipe, and its eggs showed no characteristics attributable to those of the true Sandpipers. Rowan, in referring to the eggs of *L. g. hendersoni*, said that they were very much like those of Wilson Snipe (*Capella g. delicata*). Mr. Bunyard accordingly gave a comparative study of the eggs of these two species.

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* [It is clear from the above that the diagnosis of a Yellow-billed Cuckoo (*antea*, p. 77) has to be changed to that of a Black-billed Cuckoo. This is important, as apparently there is only one previous record of the latter species for the British Isles, namely, a specimen from Antrim, Ireland, September 25, 1871 ('Zoologist,' 1872, pp. 2943, 3022; P. Z. S. 1872, p. 681).—Ed.]

COMPARATIVE SYSTEMATIC SYNOPSIS.

Ground-colour.

Limnodromus griseus hendersoni.	*Capella gallinago delicata.*
Dark buff, pale olive-green to drab.	"Olive, clay-colour, or brownish ashy" (*Chapman*).

Colour of Markings.

Rich reddish-brown to brownish-black (fairly evenly distributed).	"Chocolate-brown" (*Chapman*) (evenly distributed, sometimes confluent).

Underlying Markings.

Greyish-brown, inconspicuous or almost absent.	Greyish tinged mauve, ash-grey.

Measurements.

Bunyard's.		Bent's.
	mm.	mm.
Average, 4 eggs...	40·9×28·8	"Average, 57 eggs..38·6×28·1"
No. 1............	40·8×28·3	
,, 2............	40·7×29·2	
,, 3............	41 ×28·8	
,, 4............	41 ×29	

Weights.

Bunyard's.		Bunyard's.
Average, 4 eggs.....	919·5 mg.	Average, 11 eggs ... 827·2 mg. (Massey collection).
No. 1	919 ,,	
,, 2.............	930 ,,	
,, 3.............	948 ,,	
,, 4.............	881 ,,	

Texture of Shells.

Coarsely granulated, slight gloss to mat.	"Considerably finer, slightly glossy" (*Bent*).

Shape.

Limnodromus griseus hendersoni.	*Capella gallinago delicata.*
Bellied pyriform.	"Ovate pyriform" (*Bent*).

Date.

June 5 (*Rowan*).	"May 8 to July 24" (*Bent*).
,, 2 (*Henderson*).	
,, 1–16 (*Bent*).	

L. g. scolopaceus appears to breed later, June 6–July 5.

MEASUREMENTS AND WEIGHTS OF MR. H. MASSEY'S CLUTCH OF FOUR EGGS OF *LIMNODROMUS GRISEUS SCOLOPACEUS.*

Weights.	mg.	*Measurements.*	mm.
Average, 4 eggs	852	Average, 4 eggs	39·8 × 28·9
No. 1	844	No. 1	39 × 29
,, 2	812	,, 2	40 × 28·2
,, 3	872	,, 3	39·2 × 29·4
,, 4	879	,, 4	41 × 29

General Remarks.

A great amount of scepticism has always surrounded the eggs taken by Walter Raine in northern Alberta in 1906.

Apparently these eggs are now accepted as authentic by Rowan and Bent. One can quite understand the sceptics when the similarity in appearance of the eggs of *Capella g. delicata* are considered; perhaps quite a different egg was expected from *Limnodromus griseus scolopaceus*, and even *L. g. hendersoni.*

It will be seen from the clutch of *L. g. hendersoni* eggs exhibited that all four eggs show a different ground-colour. With the very limited material for comparison it would at present be impossible to say if this characteristic is typical or constant.

The nest was the usual depression, lined with grass and leaves, in the centre of a clump of low shrub, on the dry edge of watery muskeg; a foot below the nest was solid ice. Incubation commenced.

Dr. G. Carmichael Low said that he was very much interested in Mr. Bunyard's exhibition of the eggs of Rowan's newly described race of Dowitcher, *Limnodromus griseus hendersoni*. He said that when he was at Edmonton, Canada, in 1930 Professor Rowan had shown him all his Dowitcher skins and had explained the different points in differentiating the new race. There certainly seemed to be evidence for separating the bird, but Bent (' Life History of North American Shore Birds,' i. 1927, p. 107), who had had considerable correspondence with Professor Rowan about the breeding Dowitchers of Alberta, thought as they were strictly intermediate they should not be named. Rowan replies to this in his paper in the 'Auk' (*loc. cit.*), and says : " Strictly intermediate they certainly are not, but even if they were, logical pursuit of the argument would entail the elimination of scores of accepted subspecies." It would be interesting when more eggs of all the races are obtained to see if these differ from each other in any marked respect.

The Rev. F. C. R. Jourdain said that *Limnodromus griseus hendersoni* had not yet been recognized by the A. O. U. In the new A. O. U. Check List the breeding range of *L. g. griseus* is given as from Central Alberta to the west side of Hudson Bay. The measurements for the twelve eggs of *L. g. griseus* in the ' Practical Handbook of British Birds,' ii. p. 603, were taken from E. W. Nelson.

Professor Oscar Neumann, of Berlin, sent the following descriptions of three new geographical races of the White-eyebrowed Guan, *Penelope superciliaris* :—

Penelope superciliaris pseudonyma, subsp. nov.

Description.—This race differs from all other geographical races of *Penelope superciliaris* by having either (in most cases) no superciliary stripe at all, or only a more or less indicated thin greyish-white line behind the eye. The general colour in this race is darker than in *P. s. superciliaris* Temminck. The well-marked edges of the secondaries, the rump, and upper tail-coverts are dark maroon.

Distribution.—Right bank of the middle and lower Amazonas, and banks of its southern tributaries, from the Rio Madeira to Para.

Type.—♀ adult, Rio de Cumana, January 12, 1929. Collected by H. Lako. In the collection of Mr. H. B. Conover, Chicago.

Remarks.—Seven specimens examined.

Penelope superciliaris argyromitra, subsp. nov.

Description.—While in *P. s. pseudonyma* there is little or no superciliary stripe, this race has a very broad and well-marked light grey superciliary stripe, sometimes slightly washed with brown. The two superciliary stripes, are joined by a broad frontal bar of the same colour, so as to give the head of this race a strong similarity to that of *P. jacucaca*, *P. argyrotis*, etc.

The general colour of the whole bird is lighter, the neck, throat, and upper breast tinged with grey. Rump, upper tail-coverts, and belly lighter rufous, the edges of the secondaries lighter than in *P. s. superciliaris* and *P. s. pseudonyma*, sometimes light hazel or light ochraceous.

Distribution.—From Central Goyaz, eastwards to at least Bagagem in Minas Geraes, intergrading with *P. s. superciliaris* near the Rio Doce.

Type.—♀, Veadeiros, north-west of Forte, Central Goyaz, December 2, 1929. Collected by J. Blaser. In my collection.

Remarks.—Four typical specimens examined.

Penelope superciliaris ochromitra, subsp. nov.

Description.—In every respect similar to *P. s. argyromitra*, but the superciliary stripes and the broad frontal bar not silvery grey, but entirely ochraceous.

Distribution.—Only known from Piauhy.

Type.—Lake of Missao near Paragua, Piauhy, May 26, 1903. Collected by O. Reiser. In the Vienna Museum.

Remarks.—Three typical specimens examined.

I have refrained from giving measurements of wing and tail in each case, as these are almost the same in the three races described above, as in *P. s. superciliaris* Temminck.

Measurements.—Wing, ♂♀ ad. 240–265 mm.; tail 290–330 mm.

Further Remarks.—These descriptions are a preliminary result of a careful examination of thirty-one specimens of *Penelope superciliaris*. I hope soon to give a more exhaustive paper, in which I shall show that the type of *P. superciliaris* almost certainly did not come from Para, as erroneously stated by Temminck, but is probably a specimen collected by Gomez in Bahia for Count Hoffmannsegg, which is preserved in the Berlin Museum (*cf.* Stresemann, Journ. f. Ornith. 1922, p. 499). Dr. van Oort tells me that Temminck's type is not in the Leyden Museum.

Sieber, who is quoted by Temminck as the collector of the typical specimen, has not collected this species at all as far as can be traced in the old Catalogues of the Berlin Museum.

Mr. J. Delacour sent the following note :—

In the Bulletin, li. 1931, p. 56, Dr. E. Hartert and Monsieur L. Lavauden have described as a new race, *Nesillas typica monticola*, from one female obtained near the top of Mt. Tsaratanana (2750 metres) in Madagascar. According to the description, the only striking character of this bird was the length of the tarsus (36 mm.). In my revision of the genus *Nesillas* ('L'Oiseau,' 1931, p. 478) and in my list of the Birds of Madagascar (*ibid.* 1932, p. 85) I could not give a definite opinion on this form, as the type, a unique specimen, had not been available for examination. Now that Monsieur Lavauden has kindly presented his rarer Madagascar specimens to the Paris Museum, I have been able to examine it. The measurement of the tarsus given in the Bull. B. O. C. (*loc. cit.*) is evidently a misprint or a slip of the pen, as the bird has a tarsus of 26 mm. instead of 36 mm., and therefore its measurements are just within the average of many specimens of *N. t. ellisii* and *N. t. typica*, which also match it in every other way. Therefore, in my opinion, *N. t. monticola* must be considered a synonym of *N. t. ellisii*, which has been found also in numbers on Mt. Tsaratanana, near Andapa, at an elevation of 1800 m.

I may add that the differences between *N. t. typica* and *N. t. ellisii* are so very slight that they might not even be worthy of recognition, although northern birds on an average are perhaps a little more yellowish than those from the centre and the south-east.

Professor OSCAR NEUMANN communicated the following note:—

"When recording the geographical races of *Charadrius marginatus* (Bull. B. O. C. liii. 1932, pp. 10–11) and describing *Ch. m. hesperius* and *Ch. m. russatus*, which latter name had to be changed to *Ch. m. nigirius* (Bull. B. O. C. liii. 1932, pp. 75–76), Mr. G. L. Bates has not referred to *Ægialitis mechowi* described by Cabanis (Journ. f. Ornith, 1884, p. 437, and figured *loc. cit.* 1885, pl. vi. fig. 2 *a* & *b*).

"I am afraid that unless evidence is shown that the birds from western Upper Guinea differ from those from Lower Guinea one of these races must become a mere synonym of *Charadrius alexandrinus mechowi* Cabanis, from the Quango River, North Angola. I have failed to find any differences when comparing Cabanis' three typical specimens, 1 ♂, 2 ♀♀, with 1 ♂ from Stanley Pool, Congo, 1 ♂ and 1 ♀ from Bipinde and Bibundi, Cameroon, and 1 ♂ from Loko, on the Benue.

"As all these specimens have been collected inland on the banks of larger or smaller rivers it is more probable for ecological reasons that *Ch. a. nigirius* is more similar to and probably identical with *Ch. a. mechowi.*

"I have shown in a paper (Nov. Zool. xxxv. 1929, pp. 212–216) that all these races ought to be treated as subspecies of *Charadrius alexandrinus*, because the gap which seemed to separate the Palæarctic, Indo-Australian, and American races of the Kentish Plover from the races of the African White-fronted Sand-Plover is perfectly overbridged by the race which breeds on the coast of South Somaliland, which for this reason I have named *Charadrius alexandrinus pons*.

"I may add that at least one specimen of *Ch. a. pons* is in the British Museum, a specimen which was collected by Capt. A. E. Hamerton near Obbia on January 15, 1903."

Mr. D. W. MUSSELWHITE and the Rev. F. C. R. JOURDAIN sent some remarks on the Willow-Tit dealing specially with Mr. P. F. Bunyard's exhibition and statements (*antea*, pp. 76–77). These arrived too late for insertion in the 'Bulletin.' The

Rev. F. C. R. Jourdain points out that many ornithologists have observed the Willow-Tits excavating their own nesting cavities.

Mr. Musselwhite upholds his contention that the Marsh-Tit, *Parus palustris dresseri*, usually lays 6, 7, or 8 eggs (*antea*, p. 38). He says that this is corroborated in reliable works and by many competent observers, and that therefore Mr. Bunyard's statement (*antea*, p. 77) is incorrect.

Discussion on this subject is now closed.

Mr. A. F. Griffith writes, referring to his remarks at last month's meeting (*antea*, p. 78) with reference to the late Mr. J. Whitaker's collection, that the son of the latter has now revoked the sale of the collection to him, finding that the local museum at Mansfield is prepared to keep it as a great local collection.

He thanks heartily those members who had expressed their willingness to help in the purchase.

Mr. H. F. Witherby writes :—

"I think Mr. T. H. McKittrick Junr. should be given the credit in the 'Bulletin' for having raised the point that Mr. A. F. Griffith's Cuckoo had been wrongly identified, as it was through him that the bird was submitted to the British Museum to be compared."

Mr. B. G. Harrison also writes pointing out that Mr. P. F. Bunyard, at the meeting at which Mr. A. F. Griffith exhibited the Cuckoo, had considered the bird a Black-billed and not a Yellow-billed Cuckoo.

Corrections.

Mr. D. A. Bannerman said that he wished to correct a mistake which he had made in the last number of the 'Bulletin' (Bull. B. O. C. liii. 1932, p. 72). He had proposed a new genus *Tetragonopyga* for the Little African Swift. It had since been pointed out to him that Mr. Austin Roberts had already proposed a genus, *Colletoptera*, for *Cypselus affinis* Gray (Ann. Transvaal Mus. viii. 1922, p. 217). Mr. Bannerman said he much regretted having overlooked this genus, which was due to the fact that Mr. Roberts had listed it under the unfamiliar family name Macropterygidæ, which he himself had never before seen used for the Swifts. He was obliged to Dr. C. B. Ticehurst and to Baron Snouckaert van Schauburg for having drawn his attention to Mr. Roberts' genus, which, of course, has precedence by a number of years.

For Mr. A. M. Griffith, *antea*, p. 77, read Mr. A. F. Griffith.

For American Yellow-billed Cuckoo (*Coccyzus a. americanus*), *antea*, p. 77, Black-billed Cuckoo (*Coccyzus erythropthalmus*) should be substituted. *Vide* pp. 88–90 of this number.

NOTICES.

The next Meeting of the Club will be held on Wednesday, February 8, 1933, at PAGANI'S RESTAURANT, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine must inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

SPECIAL NOTICE.

The attention of Members of the Club is specially drawn to the fact that the Annual Dinner of the British Ornithologists' Union, which is held in conjunction with the Monthly Meeting of the British Ornithologists' Club, is to be held this year at the Knightsbridge Hotel, Knightsbridge, S.W. 1, on Wednesday, March 8, 1933, at 6.45 for 7 p.m., and not at Pagani's Restaurant, as usual. The Meeting will be devoted principally to lantern-slides, and the Hon. Secretary will be pleased to hear from any Member who has slides to exhibit, so that the necessary arrangements may be made.

GENERAL INDEX.

Volume III.

This is now ready, and can be obtained from the publishers, Messrs. H. F. & G. Witherby, 326 High Holborn, W.C. 1, at the price of £1 1s. 0d.

Agenda

(for February Meeting).

1. Mr. B. G. Harrison will read a paper entitled "A few Remarks on the Factors governing the Development of Parasitic Habits in Passerine Birds (Troupials and Weavers), and in particular of American Cowbirds."
2. Mr. T. H. Harrisson will give a short lecture on an Expedition to British North Borneo, illustrated with slides and other exhibits.
3. Mr. P. F. Bunyard will exhibit a clutch of Ruddy Sheld Duck's eggs, with nest, feathers, and down, and also eggs of Steller's Eider.

[illegible]

PURCHASED 1933

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXVI.

The three-hundred-and-sixty-first Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, February 8, 1933.

Chairman : Mr. D. A. Bannerman.

Members present :—W. B. Alexander ; E. C. Stuart Baker ; F. J. F. Barrington ; Sir J. Rose Bradford ; P. F. Bunyard ; Hon. G. L. Charteris ; H. P. O. Cleave ; Maj.-Gen. Sir P. Z. Cox ; R. H. Deane ; A. H. Evans ; A. Ezra ; Miss J. M. Ferrier ; W. E. Glegg ; Miss E. M. Godman ; Capt. C. H. B. Grant ; Col. A. E. Hamerton ; B. G. Harrison ; T. H. Harrisson ; R. E. Heath ; Dr. K. Jordan ; Rev. F. C. R. Jourdain ; N. B. Kinnear ; Miss E. P. Leach ; Dr. G. Carmichael Low (*Editor*) ; Dr. N. S. Lucas ; Rear-Admiral H. Lynes ; T. H. McKittrick, jun. ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; Dr. P. H. Manson-Bahr ; G. M. Mathews ; C. Oldham ; C. B. Rickett ; W. L. Sclater ; Lord Scone ; D. Seth-Smith ; B. W. Tucker ; Miss E. L. Turner ; H. F. Witherby (*Vice-Chairman*) ; C. G. M. de Worms.

Guest of the Club :—Dr. Finn Salomonsen.

Guests :—Sir Charles Belcher ; A. B. Donaldson ; Mrs. Mackworth-Praed ; P. E. C. Manson-Bahr ; Mrs. Ida Pearson ; Miss P. Ponsonby ; Mrs. W. L. Sclater ; J. Vincent.

[*February* 22, 1933.] *a* VOL. LIII.

The Chairman, Mr. D. A. Bannerman, introduced Dr. Finn Salomonsen, the Guest of the Club for the evening, and said:—

It is my privilege to welcome here to-night as the Guest of the Club an ornithologist from Denmark—Dr. Finn Salomonsen. His name will be familiar to many of you, for he has contributed more than one important paper to 'The Ibis.' It was he who wrote about two years ago on the geographical varieties of the Snow-Bunting, while last year, you will remember, he described three new races of the Guillemot in the January 'Ibis.' He is now engaged in studying the Paradise Flycatchers at the Natural History Museum, and has handed me a short paper for publication in the 'Bulletin.'

Although Dr. Salomonsen writes English well, he tells me that he does not speak it sufficiently well to address you himself.

It is always a pleasure to welcome to this Club our co-workers from overseas, and I can assure our guest, in the name of all of you, that we are delighted to have him with us to-night.

Mr. B. G. Harrison read a paper entitled "A few Remarks on the Factors governing the Development of Parasitic Habits in Passerine Birds (Troupials and Weavers), and in particular of American Cowbirds." He said:—

I am showing to-night a small exhibit of the eggs of the Shiny Cowbird of South America (*Molothrus bonariensis*), which may be of interest to any members who are not familiar with this bird. As I think the habits of Cowbirds in general throw some light on the factors governing the development of parasitism in birds, it has occurred to me that a few remarks on this subject might also be made at the same time.

One can understand the gradual development of the parasitic habit when once a species has commenced to break away from its original traditions, but what are the factors which cause this breakaway to commence? Many theories have been advanced, some of the best known being the following:—

(*a*) The occurrence of polyandry amongst the species.
(*b*) A decrease in the territorial instinct, which in turn may reduce the spirit of nest-protection.
(*c*) The suggestive stimulus received by the ovaries of parasitic birds, due to the birds' observation of the nest-building or eggs of other species.
(*d*) An interruption in the time-sequence between the nest-building instinct and the laying instinct.

As we are all aware, true parasitisim occurs amongst relatively few groups of birds. There are the Tree-Cuckoos of the Old World, the Honey-guides, which occur principally in Africa, and, amongst passerine birds, certain of the Weavers and the American Cowbirds, with the last of which may be included the Rice-Grackle.

There are five well-known species of Cowbird on the American Continent:—*Molothrus ater*, the North American Cowbird; *Tangavius œneus*, the Red-eyed Cowbird of Mexico and Panama; *Agelaioides badius*, the Bay-winged Cowbird, and *Molothrus rufoaxillaris*, the Screaming Cowbird, both occurring in the Argentine, Uruguay, and Southern Brazil; and *Molothrus bonariensis*, the Shiny Cowbird, which, in various forms, occurs from Northern Colombia down to Northern Patagonia.

If we examine the habits of these five species we find they each exhibit definite stages in the evolution of parasitism. The Bay-winged Cowbird (*Agelaioides badius*), although I believe it occasionally builds its own nest, is generally parasitic upon the nest of some other species, but invariably broods its own eggs.

The Screaming Cowbird (*Molothrus rufoaxillaris*) victimises the Bay-winged Cowbird and, apparently, no other bird, and it is interesting to note that, although there is no resemblance between the adults, both the eggs and the young of the two species very closely resemble each other.

The Red-eyed Cowbird (*Tangavius œneus*) of Central America seems to be parasitic on a limited number of Orioles (Hang-nests), with a slowly extending range to certain other species.

The Shiny Cowbird (*Molothrus bonariensis*) is parasitic on almost every bird of suitable size and habits, and has victimised at least 100 species, and this list is probably very incomplete. It is, moreover, very wasteful in its egg-laying habits, frequently leaving eggs on the ground and laying several eggs in one nest, often, indeed, in nests which have already been deserted.

The North American Cowbird (*Molothrus ater*), which covers almost the whole of temperate North America, is also parasitic on an equal number of hosts. It, however, usually lays only one egg in a nest, seeming to select its sites with considerable care, and is not wasteful of its eggs.

It will thus be seen that these five species show five distinct stages in the evolution of the parasitic habit, commencing with the Bay-winged Cowbird and finishing with the North American Cowbird.

Dr. Friedmann, in his Monograph on the Cowbirds, to which I am indebted for a considerable amount of information, points out that, judged by either the development of their songs, by the type of coloration, or by their geographical distribution, each of these three standards of classification tends to show that the Bay-winged Cowbird is the most primitive of the five, and that the other four species have evolved from it in the sequence which I have already named. If this argument can be accepted, it would confirm two points. First, that parasitism in passerine birds is in process of evolution rather than of disappearance, a fact about which I think there is very little dispute; and secondly, as both the Bay-winged and Screaming Cowbirds appear to be monogamous, that polygamy, or polyandry, is an effect of, rather than a cause of, parasitism.

The theory that parasitism is caused by a reduction of the territorial instinct seems to be partly based on the fact that the Bay-winged Cowbird, instead of staking out its territory first and then taking possession of the nest, appears to take possession of the nest and increases its territory from that centre. In other words, it is reversing the usual operation. At the same time, it does not necessarily follow that this habit in itself would decrease the protective instinct in regard to the nest, which, after all, is the important consideration. It must also be remembered that certain passerine birds, such as Rooks, Fieldfares, and Martins, which are gregarious during the nesting season, do not show any tendency towards parasitism, although in the case of these birds they may only be exchanging the individual territorial instinct for a collective territorial instinct.

On the other hand, parasitism occurs amongst certain of the Ploceidæ, which, as a family, is definitely gregarious, this habit reaching its culmination in the collective nests of the Sociable and Red-billed Black Weavers.

In reference to the theory that the observation of the nest-building of other birds stimulates the ovaries of Cowbirds and Cuckoos, and that this is a cause of the parasitic habit, it seems a little difficult to understand why, if they originally built nests themselves, they should ultimately find a greater stimulus in the nest-building of other birds, and to me this does not seem a very satisfactory explanation. Yet there are numerous species which occasionally lay their eggs in the nests of other birds, and this may be the dawn of the parasitic urge.

We all know of many instances of large clutches which in some cases may be, and in others certainly are, due to more than one female.

If it is possible to explain the development of parasitism by any one theory, the most probable would seem to be the interruption of the nest-building and egg-laying cycles. In other words, the desire for laying becomes paramount before the completion of the nest. In this connection it is rather a significant fact that the parasitic habit in passerine birds seems to occur only amongst the Icteridæ and the Ploceidæ, the two families where nest-building reaches its highest development, and it may well be that the time required for an elaborate nest which demanded a very long period for its completion might ultimately cause a disruption of the normal time-sequence of building and laying.

This disruption would certainly create a greater urge in individual birds to find another nest than would occur if the instinct to build an elaborate nest had been lost gradually.

Another explanation may be that, if the territorial instinct becomes subordinated to elaborate nest-building, the protective instinct may gradually disappear, and so ultimately the desire to possess eggs and young.

Amongst primitive birds, before the nest-building instinct had developed and a hole or a sheltered depression on the ground was all that was necessary for the deposition of its eggs, it is easy to understand how a lack of suitable sites might frequently involve the use of the same hole or depression by more than one bird at the same time.

It is rather remarkable that on the rare occasions when the Bay-winged Cowbird builds its nest it constructs an open one, but the nests of other birds which it takes possession of are almost invariably covered, and have a small entrance-hole, and it has been pointed out by certain observers that the Shiny Cowbird, when looking for a site to deposit its eggs, frequently betrays considerable interest in covered nests or in holes in walls or trees, although it usually deposits its eggs in an open nest. Are these facts caused by the recurrence of the instinct of some primitive hole-nesting ancestor, and is this simple instinct the true cause of the evolution of a habit which has reached so high a state of development in the Cowbirds and Cuckoos ?

In this small exhibit the difference between the eggs of the Cowbird and those of its fosterers is very marked, and it makes one wonder to what extent the latter is enabled to distinguish the parasitic eggs and to what extent it is indifferent to them. In the case of a fosterer, such as the Oven-Bird, one can understand the dark interior of the nest preventing the difference between the two types of eggs appearing very conspicuous, but in a large, open nest like that of *Mimus modulator*, where the fosterer is a much larger bird than the Cowbird, the case is very remarkable.

In many of the more populated districts in the Argentine and Uruguay the number of Cowbirds is very great indeed, and almost every small nest that is not well concealed has its quota of parasitic eggs. Indeed, so numerous are these eggs that the Shiny Cowbird must interfere considerably with the development of many species in these particular areas, and birds that readily deserted on any interference by a Cowbird may easily have been exterminated from these localities.

My exhibit consists of the contents of four nests taken in South-eastern Brazil and eight nests taken in Uruguay.

The Brazilian birds belong to the subspecies *M. b. melanogyna*, and although the birds are almost indistinguishable in the field from *M. b. bonariensis*, in the few nests which I have had the opportunity of examining the green type of egg seems far more prevalent than the white or the erythristic type. With the Uruguayan eggs the reverse is the case.

Amongst the Uruguayan specimens are two with a pale blue ground colour, and I believe this type has never been reported before. Both eggs were found in nests of the Oven-Bird (*Furnarius rufus*). There is also an egg with three of the Red Thorn-Bird (*Phacellodomus ruber*), which, I understand, has not been previously recorded as a fosterer. This bird builds a nest of thorns with an entrance-passage to an inner chamber which may present some difficulty to the Cowbird. It will be noticed that in this instance the Cowbird's egg is pure white, and very similar to that of its host.

Mr. T. H. Harrisson gave a preliminary account (illustrated by lantern-slides and exhibits) of his recent work in Central Borneo.

The Oxford University Sarawak Expedition, 1932 (which was made possible by grants from the Sarawak Government, British Museum, Royal Geographical Society, Percy Sladen Trust, Royal Society, Oxford University, Sir Jeremiah Colman, Bt., Colonel John Buchan, M.P., Lord Howard de Walden, and others), spent the period July to December mainly in the Mount Dulit (Baram) area. C. H. Hartley and myself were the ornithologists. Our primary objects were a detailed study of ecology, numbers, food, breeding-seasons, and tree-top activities (from tree-top platforms), at river-level, and a systematic study of zonation on the mountains, especially at and above 3000 feet, where a special fauna and flora appear. We also made intensive observations on Spider-hunters, Broadbills, and caves where birds nest. In addition, we collected rather over 1000 bird-skins. We have been home only about a fortnight, so that a rough general sketch may be excused. I shall simply try to produce a really tropical luxuriance of confusion in everyone's mind; biological problems in the rain-forest are, perhaps, more difficult than anywhere else; which, no doubt, explains the present state of knowledge on such problems.

1. *Work in the Lowlands.*

For the first month we devoted ourselves to a close study of the different habitats at river-level—paddi-clearing, house secondary, fresh and old secondary, virgin forest, wild rubber, reed-beds and river-banks. We found only three species distributed throughout all these habitats—the beautiful *Nyctiornis amicta* *, a Spider-hunter (*Arachnothera longirostra*), the common omen bird of Borneo, and a small Broadbill (*Eurylaimus ochromalus*). None of these is common in every habitat, and each has peculiar food-habits which favour it against competitors. A Cuckoo, a Flycatcher, two Babblers, and two Spider-hunters are the only other species which occur in even a majority of habitats. Within the primary (virgin) forest there are four tiers of life—canopy, sub-canopy, intermediate, and ground. But no tier except "ground" is a separate unit; as the sun rises the canopy birds move down to the sub-canopy, and some canopy birds may, in the heat of the day, feed off the ground. There is a daily cycle in level change; towards sunset birds again move into the tree-tops, which have been almost or entirely deserted in the forenoon. Therefore a species can be assigned to one or more tiers by its maximum *upward* range only. Some ground-species, such as certain Babblers and Broadbills, are also intermediate and move up to 40 feet, while certain species which are characteristic of ground-levels and of low secondary jungle—e. g., the Spider-hunter (*Arachnothera longirostra*), the Tailor-Bird (*Orthotomus cineraceus*), and the Crested-

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* Binomials are used here for convenience.

Shrike (*Platylophus*)—regularly move up to the canopy at certain hours. The whole thing almost, but not quite, cancels out into a general mix-up. There is certainly none of the distinct zonation found in some rain-forests, and we cannot even be certain that a bird nests in its type-habitat—for example, Hornbills, which might be called super-canopy birds, must nest well below the sub-canopy, because they nest in holes in tree-trunks.

There are a good many species which are confined to virgin forest, but very few confined to secondary growths; *Pycnonotus analis*, *Copsychus musicus* (The "Straits Robin"), and certain Munias are, perhaps, the only ones. Primary forest was, of course, the original jungle, but the native system of agriculture has been so long operated that one might expect more secondary exclusive species: the issue is complicated by the fact that a paddi-clearing is soon abandoned and a new forest area felled, so that there is no habitat stability—a clearing will have become low secondary jungle in five years.

With the above exceptions the only species with a locally exclusive distribution are those connected with water. The almost unexploited aquatic habitat has led certain forest species, such as the songster *Trachycomus zeylanicus*, the Broadbill *Eurylaimus javanicus*, *Setaria cinereum*, and the Brahminy Kite (*Haliastur indus*), to become closely associated with rivers; while (to recomplicate everything) most of the Kingfishers feed largely or wholly on Orthoptera, beetles, and other insects, often taken within primary jungle adjacent to the rivers. There were no nesting Herons, Rails or Ducks in our area, but these groups also have semi-terrestrial feeding-habits. The Darter (*Anhinga melanogaster*) and the Common Sandpiper (*Tringa hypoleucos*) are the only true aquatic species.

The most common bird-food (one thousand stomachs examined) were Orthoptera, especially grasshoppers; some species were exclusively berry-feeders above 4000 feet, and exclusively insect-feeders below 4000 feet. The two commonest Mountain-Babblers, *Erpornis brunnescens* and *Staphidia everetti*, which both belong to the same subfamily, had identical habits and distribution; but the former fed on softbodied Diptera, perlids, and spiders, a diet shared by Flowerpeckers and Spider-hunters, the latter on small green berries—remarkable food for such a species. These two were thus perfectly adjusted, and each was able to be a dominant in the same environment without affecting the other.

A similar adjustment was found in the two rare Ground-Partridges, both caught in the same snare-line at 3800 feet. *Hœmatortyx sanguiniceps* was exclusively a berry-feeder, except for a pair taken at 2500 feet (where the other species did not occur) which had, in addition to berries, taken a few weevils and termites. Stomachs of *Caloperdix borneensis* contained large numbers of ants and termites (adults and ova) and a few longicorn beetles. The more specialized food-habits of *Caloperdix* may explain why *Hœmatortyx* outnumbered it by six to one. *Pyrotrogon duvaucelii* was a specialized feeder which favoured green Orthoptera to the exclusion of almost everything else ; other Trogons were more liberal, but *P. duvaucelii* was, nevertheless, much the commonest and most widely distributed.

The gonads of a thousand birds were also examined. Most species had finished breeding a few weeks before our arrival (July 31), and high mountain species had finished several weeks before lowland ones—probably in mid-June. But some species had individuals in full breeding condition throughout our stay, notably Spider-hunters, Flowerpeckers and Broadbills. Though the rainy season (starting about November) is not so well marked in Borneo as in other tropical countries, it clearly influences the breeding season. Territory, except in Spider-hunters and Trogons (which latter seem to have a rigid and constant territorial system), was almost non-existent during the period under notice. Yet mixed flocks, which are so characteristic of tropical rain-forest, were equally inconspicuous, and were confined to a few Babbler species between 3000 and 4000 feet.

2. *Work on the Mountains.*

Bornean mountains above 3000 feet have a peculiar fauna and flora, with many species not found elsewhere. Whitehead's collections from Kinabalu in British North Borneo first drew attention, forty years ago, to this fact. Sharpe's reports on his collections, and the many and striking novelties described, stimulated Everett, Hose, Cox, and others to collect on other mountains. Hose, with his immense energy, was particularly successful; he visited Dulit in 1892, and sent native collectors in 1893 and 1894. He obtained ten new birds—*Caloperdix borneensis*, *Rhizothera dulitensis*, *Calyptomena hosii*, *Pyrotrogon vidua*, *Pyrotrogon dulitensis*, *Scops brookei*, *Batrachostomus harterti*, *Batrachostomus mixtus*, *Oriolus hosii*, and *Chlorocharis emeliæ*—some of which were still known from one specimen only until our visit. He also got many others previously known from Kinabalu only.

In recent years Mjöberg has made valuable collections on Mts. Poi and Penrissen in south Sarawak, and Murud in north Sarawak; while Pendelbury and Chasen made important collections on Kinabalu in 1929. We have had the advantage of examining these collections (in the Kuching and Singapore Museums), as well as the older material in the British Museum, so that we are in a strong position to study mountain systematics. Previous workers have been held up for lack of comparative series. Three species have already been divided into different races on different mountains—*Arboricola hyperythra* (Partridge), *Dendrobiastes hyperythra* (Flycatcher), and *Chlorocharis emiliæ* (White-eye); also a few months ago Hachisuka named a *Rhinomyias* from Dulit as distinct from the Kinabalu form. We expect to name several other new forms in this 'Bulletin' within a few months, and we postpone discussion until that time. Racial distinctions are of value in this case because they provide a key to age, interchange, previous connections, and altitudinal effects of the various peaks.

Why is there a special fauna and flora above 3000 *feet*?

It is an important question. Sharpe stressed Himalayan affinities (which were only to be expected) and submersion of the island to a 3000 feet level; but Sharpe was little concerned with theory. Stapf, the first botanist to explore Kinabalu, went rather fully into the matter from his own point of view, stressing the points that Borneo was an old archipelago in Tertiary times, and that Kinabalu is not only old land, but old highland; he also emphasizes the part played by erosion (and consequent segregation from other highlands) in forming a special flora. Pendlebury and Chasen apparently agree with Robinson and Kloss, who conclude from the distinct genera and species found that Kinabalu (Borneo) was cut off from the rest of the Indo-Malayan land-mass long before Java, Sumatra, etc. Banks emphasizes a sinking to 3000 feet, the continuity of mountain ranges, and the older fauna of northern compared with southern Borneo. When considered side by side, the theories put forward by these writers seem actually to explain very little, and in some points are definitely unsound.

W. Campbell Smith, of the Mineralogical Department, British Museum (Natural History), has very kindly made some researches into the geological literature on my behalf, and he finds that there is no good evidence for a deep sinking, that the upper Kapuas basin area (Müller Mts., etc.) is at least as old as any other part of Borneo, that there was a canting over to the north in early Quaternary uplift (Banks postulates the opposite phenomenon to explain the fauna), and so on.

I can think of an objection and an alternative explanation for each theory that I have seen in print. The most important specializing factor is generally overlooked, the present neglected for the past: this factor is climate. The mean temperature at river-level during our stay was about 10° F. higher than at 4000 feet. It was definitely cold (to 59° F.) at night, and often in the day at 4000 feet, and even at 2500 feet. The daily range of temperature at 4000 feet was much greater than at river-level. Ice has been recorded from Kinabalu summits; Whitehead records the day and night temperature-range at 7750 feet during February and March as 60° to 70° and 42° to 52° respectively. Cloud-level, with its effects on humidity, light qualities, etc., is very important. On Dulit we determined the mean cloud-line from 2900 feet (in the early morning) upwards, according to temperature and time of day. On Kinabalu the cloud-line lies between 5000 and 8000 feet. The clouds affect humidity, directly affecting the flora, which in turn affects invertebrate life, and thus all bird-life, which is, of course, affected at the same time directly by the climatic conditions, so that a double influence towards specialization is operating. Humidity at 4000 feet fluctuates more violently, and possibly falls rather lower during droughts.

These climatic influences are automatic, and they exercise a very great influence on bird-life. Birds living in such conditions must tend to develop along different lines from those below; they must have tended to do so in the remote past, and they must still be doing so now.

An evolution towards new mountain forms is progressing even now, independent of isolation.

Sinking, segregation, and climate must all be taken into account: they are inextricably woven. It is not yet possible to pick out each separate thread, but we hope to attempt it in a detailed study of mountain fauna to be undertaken in the next few years. I am going with Dr. John Baker to the New Hebrides in July, partly in order to study the mountain-tops there. Here I would stress the point that geological explanations can be, and often are, manufactured to order by biologists without any geological data to support them; but before the past is investigated the present must be examined very carefully indeed.

We distinguished five avifaunal zones:—

(1) *Moss forest*, above 3900 feet. Twenty-three mountain species, seven of them not found in Zone 2 or elsewhere. Five lowland species were recorded, two of which were common—*Chrysophlegma humei* (Woodpecker) and *Arachnothera everetti* (Spider-hunter). It may be possible to separate some forms which occur low and high into distinct races. The extraordinary character of the moss forest is well illustrated in several of my lantern-slides

(2) *Moss transitional*, 3700–3900 feet, on the sandy slow-gradient north side of the Dulit range. Several species are locally confined to this special habitat—*Pyrotrogon whiteheadi*, *Calyptomena whiteheadi*, *Allocotops calvus*, and *Oriolus hosii*.

(3) *High forest*, 3000–3900 feet, on the steep gradient, south side. About 20 mountain, 10 submontane-lowland (e. g., *Macropygia ruficeps* and *Eucichla schwaneri*), and 24 lowland species (including 3 Woodpeckers, 1 Cuckoo, 1 Barbet, 2 Broadbills, 1 Trogon, 1 Bee-eater, 2 Bulbuls, 2 Babblers, 1 Thrush,

2 Flowerpeckers, 3 Spider-hunters, and several Hornbills). The mountain forms, though outnumbered by species, were dominant in numbers.

(4) *Lowlands,* below 3000 feet, with about 200 more or less common forms. Mountain species very seldom occur below 3000 feet, except in Zone 5 as below.

(5) *Koyan moss forest* *, at 2500 feet, in the very humid hollow formed by the Koyan River's headwaters on the north side of the range. Here mountain and lowland forms were evenly mixed; several species typical of the moss forest (Zone 1) were found here, and not in the intervening area (2600 upwards).

A full account of zonation with reference to all plant and animal groups will be given in due course.

On Kinabalu 5000 feet is the *lowest* level at which moss forest is found (usually 6000 feet, corresponding roughly with cloudline) and the whole flora and fauna is shifted upwards as compared with Dulit; occasional lowland birds occur up to 5500 feet.

A few other points. We were able to get series of special species represented by one or two specimens only in the British Museum and elsewhere, including *Hæmatortyx sanguiniceps*, *Caloperdix borneensis*, *Calyptomena whiteheadi*, *Pyrotrogon whiteheadi*, *Otocompsa montis*, *Buchanga stigmatops*, *Cissa jefferyi*, *Arachnothera juliæ*, *Enicurus borneensis*, and *Chlamydochæra jefferyi*, the last two previously known only from Kinabalu. Several Frogmouths were obtained at high altitudes, and we hope to revise the unsatisfactory position of this group in the near future. Special collections of *Ceyx*, *Cyornis*, and the Hornbill (*Anthracoceros malayanus*) were made, as their systematics are very unsatisfactory. The Baram district is intermediate between North and South Borneo as regards species divisible within the island: most divisible species were represented by the southern race, but a few, such as *Orthotomus artrogularis* (a Tailor-bird) were represented by the North Borneo form.

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* (2) and (4) are similar to the type of forest on sand in South-east Borneo, described as "heidewald" (heath-forest) by Winkler.

November was spent in geographical exploration and travel in units of one or two persons ; subsidiary collections, totalling 200 bird-skins, were thus made on Mount Kaluling (5500 feet) and Mount Mulu (7950 feet) (both climbed for the first time, and the latter probably the highest mountain in Sarawak), and on the Belaga and Rejang Rivers, "Hose's Lake," and the Baram River. These should provide some interesting data.

My remarks to-night are tentative and preliminary ; within the next few months we intend to prepare papers on the various ornithological results which will, I hope, appear in 'The Ibis,' 'Journal of Animal Ecology,' and elsewhere. I am grateful to C. H. Hartley, N. B. Kinnear, P. W. Richards and Miss Lawson for assistance in preparing this account.

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Mr. H. F. Witherby exhibited a melanic example of the Common Snipe (*Capella gallinago*), usually called Sabine's Snipe. This bird, which was a female, had been sent to him in the flesh by Mr. E. Cadogan, who had shot it at Beaulieu, Hampshire, on January 19, 1933. Mr. Witherby described the bird as follows:—

Forehead, crown, and nape black, without markings; back of neck and upper mantle black, with some brown spots; rest of upper-parts, wing-coverts, and inner secondaries black, with numerous wavy bars of pale brown and reddish-brown, but with no pale longitudinal lines as in a normal bird; lores uniform greyish-black; chin, centre of throat, and centre of belly uniform sooty brown; sides of neck, breast, and flank same, but closely barred pale brown; whole underwing, including axillaries, uniform brown-black. When the bird reached me the bill had the basal half brown and the tip black, and the tarsi and feet were dark brown.

Wing 133, bill 67, tarsus 30 mm.

Four specimens of this variety in the British Museum collection are decidedly more marked with rufous than the specimen now exhibited, which is exceptionally black.

Mr. P. F. Bunyard exhibited a clutch of eight eggs, together with the nest-feathers and down, of the Ruddy Sheld Duck (*Casarca ferruginea*) from the Caspian Sea, South Russia, taken by Datschenks on June 19, 1912, and also two plaques of nest-feathers and down.

Mr. Bunyard said that, unfortunately, the eggs were of little value for weights, two only of the eight having been properly emptied. These weighed 7·555 and 7·515 mg. respectively, which comes near Rey's average weight for thirteen eggs, viz., 7·332 mg.

Measurements.—Eight eggs; average 65·8×47·0 mm.; the eggs showing the four extremes measure **67**×47, 66·8×**49·3**, **65**×48, and 66×**46** mm.

Mr. Bunyard found that the eggs were coated with a thin wax-like film similar to that found on the eggs of Eider-Ducks. Where this was missing, or had been removed, it was possible to examine the granulation, which is coarse and has deep pittings, as if the point of a pin had been inserted while the shell was soft. This is also characteristic of the eggs of the Common Sheld Duck (*Tadorna tadorna*), which do not, however, appear to have the wax-like film.

Mr. Bunyard described the nest-feathers as follows :—

Terminal portion.—Orange-brown or true "ginger," paler towards the centrum.

Basal or downy portion.—Pale brownish-white.

Average length.—36 mm.

Contour.—Similar to that of *T. tadorna.*

The down, Mr. Bunyard said, was several shades darker than the basal portion of the feathers, large, only very slightly tipped whitish, with large, almost pure white centrum. The down of the Common Sheld Duck (*Tadorna tadorna*) is not so large, the tips are pure white, considerably longer and more conspicuous, and the white centrum is far less extensive or almost absent. There is no possibility of confusing the feathers of the two species, which are distinctive.

Mr. **Bunyard** also exhibited a clutch of eight eggs of Steller's Eider (*Polysticta stelleri*), collected by A. Lavitt for Captain L. R. Wolfe, U.S. Army, at Cape Halkett, a hundred miles east of Point Barrow, Alaska, on June 22, 1932.

Mr. Bunyard reminded the members of the Club that he had also exhibited a clutch of seven eggs of Steller's Eider, together with the down and nest-feathers, in 1916. He described the nest-feathers of 1932 as follows :—

Terminal portion.—Sooty brown, distinctly barred ; the self-coloured feathers are sooty black, slightly paler in centre, a third type of feather is paler and greyish-black.

Basal or downy portion.—Greyish, sooty grey or greyish-white.

Length.—30–35 mm.

Contour.—Long and narrow, well rounded at terminals.

The down in bulk is sooty black, showing inconspicuous white centres. When disintegrated and mounted it is whitish immediately round the calamus, and the radii are very short.

Weights of eggs.—Twenty-two eggs (*Bunyard*) ; average 4·623 mg., max. 5·290, min. 4·072 mg.

Measurements.—Twenty-two eggs (*Bunyard*) ; average 59·9 × 41·4 mm. ; the eggs showing the four extremes measure 63·3 × 42, 57·5 × 41·3, 58·5 × 40·4, and 61·4 × 43 mm.

There is no possibility of confusing the eggs of Steller's Eider (*Polysticta stelleri*) with those of the Common Eider (*Somateria m. mollissima*), nor with those of the King Eider (*Somateria spectabilis*), as those of the first-mentioned are paler, much lighter in weight, and smaller on the average; they have the characteristic wax-like film of *S. mollissima* eggs.

Capt. C. H. B. Grant and Mr. C. W. Mackworth-Praed forwarded the following description of a new Booby:—

Sula nicolli, sp. nov.
White-tailed Red-footed Booby.

Description.—Similar in size to the adult Red-footed Booby, *Sula sula sula* (Linnæus), from which it differs in having the head, neck, mantle, wings, breast, and abdomen ash-brown, with a slight gloss or sheen; the head and neck have a golden tinge and the mantle and upper side of the wings are rather darker than the rest of the plumage; primaries, secondaries, and primary coverts similar to *S. s. sula*; rump, tail, vent, and thigh-feathers white.

Soft parts:—Iris dark brown, bill lavender, base of both mandibles red, around eye bluish, sac jet-black, tarsi and toes cherry-red.

Measurements.—Wing 380; tail 205; culmen 78; tarsus 32 mm.

Distribution.—Madagascar, Mauritius, Glorioso I. (breeding), Little Cayman I., West Indies (breeding), and Aliepata, Western Samoa (breeding).

Type.—♂ adult, Glorioso I., North of Madagascar, Indian Ocean. Collected by M. J. Nicoll on March 10, 1906 (Brit. Mus. Reg. no. 1906.12.21.65).

Remarks.—Named in honour of the late Mr. M. J. Nicoll.

Twenty specimens examined, including 3 ♂ and 3 ♀ breeding adults from Little Cayman I., West Indies.

Maynard, in 'Contributions to Science,' vol. i. 1889, p. 40, mentions this species under his description of *Sula coryi* (which is a synonym of *S. s. sula*) as the 2nd and 3rd immature dress, and states that the tail is wholly white; on p. 56 of the same work he is of opinion that there are two adult plumages, one white (=*S. s. sula*) and one brown (=*S. nicolli*).

M. J. Nicoll, Ibis, 1904, p. 588, discusses the two plumages, and in the same journal (1906, p. 690) he states that nearly the whole of the Gannets on Glorioso I. were in brown plumage, with white tails, vents, etc., and that, to the best of his belief, he did not see a single speckled Gannet (=immature of *S. s. sula*) on this island, but saw the speckled birds on Assumption and Aldabra.

Alexander, in ‘ Birds of the Ocean,’ 1928, p. 284, mentions this bird as an intermediate stage, and that it breeds in this plumage.

There is no doubt that this bird is not an immature or intermediate plumage of the Red-footed Booby (*S. s. sula*), as the majority of the twenty specimens examined are fully adult, and six are marked by Nicoll as breeding, as is also an adult male from Aliepata, Western Samoa, collected by J. S. Armstrong on April 4, 1923 (Brit. Mus. Reg. no. 1926. 12.20.21).

Moreover, all the immature specimens examined of *S. s. sula* which are assuming the adult white plumage are all showing white feathers on the whole of the body, neck, and head. This bird cannot be a colour-phase, as in all such cases the coloration is evenly distributed, and, therefore, in this Booby the rump, tail, and vent would also be ash-brown.

A male collected by J. MacGillivray on Raine's Island on May 29, 1844 (Brit. Mus. Reg. no. 1845.7.14.2) is this new Booby, but has the under-parts rather paler, more pure ash-colour, and specimens from Navigator I. (Brit. Mus. Reg. no. 1847.8.20.12) and Henderson I. (Brit. Mus. Reg. no. 1913.3.4.14) also belong to this species, but the breast and abdomen are almost as white as the vent ; the back and wings are ash-brown. No doubt further material will show that these are subspecies of *Sula nicolli*.

Dr. FINN SALOMONSEN forwarded the following remarks upon the Madagascar Paradise Flycatchers :—

On examining the huge series of the Madagascar Paradise

Flycatcher (*Tchitrea mutata* (Linnæus)) in the Collection of the recent Franco-Anglo-American Expedition to Madagascar, some interesting facts were discovered. The individual variation of this bird is very great, and it is not only dimorphic, as are many other birds, but the males are tetramorphic, *i. e.*, divided into four distinct phases, as first set out by Stresemann (J. f. Ornith. 1924, p. 93). There exist the following phases or mutants :—*a*, maroon ; *b*, maroon with white streamers ; *c*, white-backed ; *d*, black-backed. It is noticeable, however, that all four forms do not occur in the whole island, *a*, *b*, and *d* being confined to the eastern parts of the country, to the wood-land and the eastern slopes of the central high plateau. In the dry western regions only the phase *c* occurs, together with some few individuals of *b* (only two of 23 *b*'s were western), but *a* and *d* are quite absent. In northernmost Madagascar, north of a line Andapa–Maromandia–Nossi-bé, *c* and *d* meet and hybrids ($c \gtrless d$) are often collected. Also *b* is met with here, but *a* is restricted to the more southern parts of the east coast south of Maroantsetra. I may add that the white-backed *c* is also to be found on Mayotte, together with another phase resembling *a*, but with more white on the wing. We, therefore, have to divide the Madagascar Paradise Flycatchers into three subspecies, one form inhabiting Mayotte Island, and hitherto considered to be identical with the mainland form, another form inhabiting eastern Madagascar, and containing the male types *a*, *b*, and *d*, and a third western form with only *c* and a few *b*. The question now is what to call the three subspecies and the four mutants *a*–*d*. This matter is extremely difficult, as the nomenclature is most confusing.

Linnæus gave (Syst. Nat. ed. xii. i. p. 325–1766) Madagascar as the habitat for his *Muscicapa mutata*, referring only to Brisson, Ornith. ii. 1760, p. 424, t. 40, figs. 1, 2, 3. Brisson on this plate figured three species of birds, which he calls *Muscicapa madagascariensis longicauda* (descr. p. 424), *Muscicapa madagascariensis albicilla longicauda* (descr. p. 427), and *Muscicapa madagascariensis varia longicauda* (descr. p. 430), collected by Poivre and kept in the Reaumur Museum. From the descriptions and the figures it is evident that these three birds are nothing but the males *a*, *b*, and *d*, thus showing the composition of the population in the east, where Poivre certainly must have collected his specimens. Besides quoting Brisson, Linnæus described *Muscicapa mutata* as having "Corpus supra nigro-virescens," &c., his name thus given to the form *d*. The designation *M. mutata* must of course stand for the eastern form. The first name of the phase *a* is given by P. L. S. Müller (Vollst. Natursyst., Suppl. u. Reg.-Band, 1776, p. 168), who calls it *Muscicapa caudata*. Cassin (Proc. Acad. Nat. Sci. Philad. 1864, p. 255) also refers it to *mutata*. Already in 1783 the same bird was again described by Boddaert (Table Planch. enlum., p. 15) under the name *Muscicapa virescens*, referring to Brisson, Ornith. ii. 1760, p. 420 (rect. 424), and pictured in d'Aubenton, Hist. Nat. Ois. 1778, pl. 248, fig. 1, both showing the phase *a*, and the name thus becomes a synonym of *caudata* Müller. Swainson (Nat. Hist. Birds West Africa, 1837, ii. p. 60) described *Muscipeta rufa* (without type-locality), but from his excellent description it evidently appears that it is given to the form *a*, and the same can be said of the *Muscipeta holosericea*, the "Moucherolle chet-roux," given the following year (1838) by Temminck (Tabl. méthod. p. 23) to "Le Schet roux" of Le Vaillant (Ois. Afr. 1799, pl. 147), which again is our bird *a*. There can be no doubt that the bird described by Hartlaub as *Tchitrea spekei* (P. Z. S. 1865, p. 428) must be the phase *a*, although he states that it comes from "Afr. orient. interiore." As Sharpe declares that the type came from Madagascar (*cf.* Milne-Edwards and A. Grandidier, Hist. Phys. &c. de Madagascar, xii. 1879, p. 389), and as Hartlaub's description is very clear, I do not hesitate to call it a synonym of *caudata* Müller.

For the mutant *b* only one description exists, and we must for this bird adopt the name *Muscicapa gaimardi* of Lesson (Traité d'Ornith. 1831, p. 386); but, unfortunately, he states that it comes from New Guinea, where no *Tchitrea* are found at all. However, I am sure it is an error, as the very detailed description evidently applies to this Madagascar Flycatcher.

Milne-Edwards and A. Grandidier (*loc. cit.* p. 388) are of the same opinion. As before mentioned, the Linnæan name *Muscicapa mutata* has to be the designation of the mutant *d*, and Swainson's name *Muscipeta bicolor* (*loc. cit.* p. 60) is clearly a synonym of this. Regarding the fourth form, the white-backed mutant *c*, it was described by Lesson in 1847 (Descr. Mamm. et Ois. récemm. découv. p. 324) as *Tchitrea pretiosa.* As he says that "cet oiseau habite l'île de Mayotte et se trouve à Nossi-bé," it becomes the name of the Mayotte subspecies. Also E. Newton (P. Z. S. 1877, p. 298) speaks about "*Tchitrea mutata* of Madagascar and *T. pretiosa* of Mayotte," and Stresemann (*loc. cit.*) calls the white-backed bird on Mayotte *pretiosa.* In 1906 the Mayotte subspecies was described by Nicoll (Bull. B. O. C. xvi. 1906, p. 104) as *Terpsiphone lindsayi*, but without mentioning the differences from *Tchitrea mutata*, only comparing his type with the *Tchitrea comorensis* and *Tchitrea vulpina*, and, therefore, Sclater (Syst. Av. Æthiop. 1930, p. 436) and others regarded it as identical with *mutata.* The western form, of Madagascar, I propose to call *Tchitrea m. singetra*, after the native name of this bird. From the mainland forms the Mayotte subspecies can be distinguished by the greater amount of white on the wing, noticeable in both adult and juvenile plumages.

Owing to the great individual and geographical variation of the Madagascar Flycatchers, there has always been great confusion, and no author (except Stresemann) has mentioned all the four existing forms. In 1860 Hartlaub (J. f. Ornith. 1860, p. 99) separated *holosericea* (*a*), *mutata* (*d*), and *pretiosa* (*c*) as distinct species, but in 1865 (P. Z. S. p. 835) Newton supposed that they belonged to the same species, as also did Schlegel (Nederl. Tid. Dierk. 1865, p. 84). However, Stresemann first (*loc. cit.* 1924) separated the four forms and explained the differences between them in the right way as inheritable mutants.

We can now divide the Madagascar Flycatchers as follows :—

1. TCHITREA MUTATA MUTATA (Linnæus).

Muscicapa mutata Linnæus, Syst. Nat. ed. xii. i. p. 325. (1766—Madagascar.)

a. CAUDATA (Müller).

Muscicapa caudata P. L. S. Müller, Vollst. Natursyst. Suppl. u. Reg.-Band, p. 168. (1776—Madagascar.)

Muscicapa virescens Boddaert, Table Planch. enlum., p. 15. (1783—Madagascar, ex Brisson.)

Muscipeta rufa Swainson, Nat. Hist. Birds West. Africa, ii. p. 60. (1837—Africa.)

Muscipeta holosericea Temminck, Tabl. méthod., p. 23. (1838—ex Levaillant.)

Tchitrea spekei Hartlaub, Proc. Zool. Soc. London, p. 428. (1865—East Africa, *errore.*)

spekei-type, Stresemann, J. f. Ornith. 1924, p. 93.

b. GAIMARDI (Lesson).

Muscicapa gaimardi Lesson, Traité d'Ornith., p. 386. (1831—New Guinea, *errore.*)

mutata-type, Stresemann, *loc. cit.*

d. MUTATA (Linnæus).

Muscicapa mutata Linnæus, *loc. cit.*

Muscipeta bicolor Swainson, Nat. Hist. Birds West. Africa, ii. p. 60. (1837—Africa.)

bicolor-type, Stresemann, *loc. cit.*

Hab. Eastern Madagascar.

2. TCHITREA MUTATA PRETIOSA Lesson.

Tchitrea pretiosa Lesson, Descr. Mamm. et Ois. récemm. découv., p. 324. (1847—Mayotte.)

Terpsiphone lindsayi Nicoll, Bull. Brit. Orn. Club, xvi. p. 104. (1906—Mayotte.)

a. CAUDATA (Müller) (modified).

c. PRETIOSA Lesson.

Tchitrea pretiosa Lesson, *loc. cit.*

pretiosa-type, Stresemann, *loc. cit.* (Mayotte.)

Hab. Mayotte Is., Comores. On the other islands very different subspecies.

3. **Tchitrea mutata singetra,** subsp. nov.

Type in British Museum; Soalala; ♂ ad., May 31, 1929.

b. GAIMARDI (Lesson).

c. PRETIOSA Lesson.

Hab. Western Madagascar.

Mr. D. A. BANNERMAN sent the description of a new race of the Double-toothed Barbet, which he proposed to name:—

Pogonornis* **bidentatus friedmanni,** subsp. nov.

Description.–Differs from *Pogonornis bidentatus* (the race which extends from Sierra Leone to Nigeria) in its larger size and in having a greater amount of crimson on the crown. From *P. b. æquatorialis* it may be distinguished by the wing-bar being entirely deep scarlet, whereas in *æquatorialis* it is more rose-colour, the fringes being paler.

Measurements.—Bill, ♂ 31–33, ♀ 28–31; wing, ♂ 104–109, ♀ 102–108; tail, ♂ 75–82, ♀ 77–82; tarsus, ♂ 29, ♀ 26–28 mm. Three males, six females, measured from Cameroon and Angola.

Distribution.—Southern Cameroon and N. Angola.

Type.—♂ adult, Ndala Tando, North Angola; Dr. W. J. Ansorge coll. Brit. Mus. Reg. no. 1910.5.6.371.

Remarks.—I have great pleasure in naming this Barbet in honour of Dr. Herbert Friedmann, of the United States National Museum, in recognition of his valuable work on African birds.

Dr. JAMES M. HARRISON writes:—

I shall be glad if you will make a small correction in the next 'Bulletin.' In the President's Address (Bull. B. O. C. liii. 1932, p. 53) it is stated that my paper on the Bulgarian trip has already been given in 'The Ibis.' As a matter of fact the typescript has been in the hands of the Editor of that journal since the middle of last December, and I am told cannot appear until July 1933. In view of this long delay it seems desirable to correct the statement in the 'Bulletin.'

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* In this genus, which displaces *Pogonorhynchus* van der Hoeven (*vide* Syst. Av. Æthiop. 1930, pp. 269 & 858), I group, on structural characters and colour-pattern, three species—*dubius, rolleti,* and *bidentatus*—usually placed in three different genera.

NOTICES.

The next Meeting of the Club will be held on Wednesday, March 8, 1933, at the Knightsbridge Hotel, Knightsbridge, S.W. 1. The Dinner at 7 p.m. Members are reminded that this dinner is held conjointly with the Annual Dinner of the B. O. U., and that they are allowed to bring Lady Guests.

The Meeting will be devoted to the exhibition of films and lantern-slides.

Members of the B. O. C. intending to dine should inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7, and not the Secretary of the Union. This notice is necessary in order that the seating may be arranged beforehand. Failure to do so may result in no seat being available.

Agenda.

1. Mr. Jack Vincent will exhibit slides illustrating a day in the life of a field-collector (from the Portuguese East African Expedition, 1931–1932).
2. Mr. W. E. Higham will show a film of the Short-eared Owl.
3. Mr. Anthony Buxton will show films illustrating the life of Marshland Birds.

Bird Room -

PURCHASED 1933

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXVII.

The three-hundred-and-sixty-second Meeting of the Club was held at the Knightsbridge Hotel, Knightsbridge, S.W. 1, on Wednesday, March 8, 1933, in conjunction with the Annual Dinner of the British Ornithologists' Union.

Mr. H. F. Witherby, the President of the B. O. U., took the Chair during the Dinner, and Mr. D. A. Bannerman, Chairman of the Club, during the subsequent proceedings.

Members of the B. O. C. present:—Miss C. M. Acland; W. B. Alexander; E. C. Stuart Baker; Miss P. Barclay-Smith; F. J. F. Barrington; S. Boorman; H. B. Booth; A. W. Boyd; G. Brown; A. Buxton; Hon. G.-L. Charteris; H. P. O. Cleave; Maj.-Gen. Sir P. Z. Cox; R. H. Deane; A. Ezra; Miss J. M. Ferrier; W. E. Glegg; A. G. Glenister; Miss E. M. Godman; Capt. C. H. B. Grant; Col. A. E. Hamerton; B. G. Harrison; Dr. J. M. Harrison; R. E. Heath; R. F. Hope; Dr. K. Jordan; Rev. F. C. R. Jourdain; N. B. Kinnear; Miss E. P. Leach; Dr. G. Carmichael Low (*Editor*); Dr. N. S. Lucas; Rear-Admiral H. Lynes; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*); Capt. W. E. F. Macmillan; J. H. McNeile; G. M. Mathews; Dr. W. N. May; Col. R. Meinertzhagen; Mrs. D. Micholls; Mrs. C. D. Murton; B. B. Osmaston; C. W. G. Paulson; Capt. C. R. S. Pitman; F. R. Ratcliff; W. L. Sclater; Major M. H. Simonds; Major A. G. L Sladen; D. Seth-Smith; Col. R. Sparrow; C. G. Talbot-Ponsonby; Dr. A. Landsborough Thomson; B. W. Tucker; Miss E. L. Turner; Capt. A. Urquhart; H. Whistler; E. E. Wishart; H. F. Witherby (*Vice-Chairman*); C. G. M. de Worms.

Members of the B. O. U. present :—Capt. R. S. P. Bates ; Brig.-Gen. R. M. Betham ; Mrs. N. D. Brindley ; N. G. Brownrigg ; Miss B. A. Carter ; Mrs. E. Stafford Charles ; R. Chislett ; H. A. Gilbert ; A. G. Haworth ; Miss Hibbert-Ware ; W. E. Higham ; Prof. J. S. Huxley ; Miss E. M. Knobel ; Mrs. W. L. Lemon ; W. P. Lowe ; Lt.-Col. W. A. Payn ; H. J. R. Pease ; H. W. Robinson ; Sir M. C. Seton ; D. Abel Smith ; I. M. Thomson ; J. Vincent ; Capt. L. R. Waud ; S. L. Whymper.

Guests present :—Mrs. E. D. Atkins ; S. Austin ; Mrs. D. A. Bannerman ; Mrs. R. S. P. Bates ; J. H. Bevan ; A. Black ; C. V. Burne ; E. W. H. Burne ; Miss J. Clay ; R. A. H. Coombe ; Lady Cox ; G. A. Crowe ; Miss M. Gilbert ; E. Glenister ; I. Glyn ; Dame A. M. Godman ; Miss C. E. Godman ; Miss M. B. Godman ; Mrs. C. H. B. Grant ; A. H. Harkness ; Miss B. Heesom ; Mrs. M. Higham ; Miss Hildyard ; P. A. D. Hollom ; H. D. Home ; Lady Margaret Douglas Home ; Miss Lawson ; F. Lemon ; Miss C. E. Longfield ; Mrs. G. Carmichael Low ; Mrs. N. S. Lucas ; Miss Lynes ; Mrs. C. W. Mackworth-Praed ; Mrs. Macmillan ; A. C. Matthew ; Miss S. May ; M. Middleton ; D. M. Murray-Rust ; K. Newall ; R. Peel ; W. H. Perrett ; F. Pike ; W. H. Pollen ; Miss G. Rhodes ; A. N. Rucker ; J. T. Russell ; Dr. F. Salomonsen ; Mrs. W. L. Sclater ; Mrs. A. G. L. Sladen ; Mrs. Owen Smith ; Miss B. Thomson ; Mrs. I. A. Thomson ; Mrs. Landsborough Thomson ; N. Tracy ; Mrs. B. W. Tucker ; Mrs. Urquhart ; H. B. Usher ; Mrs. C. Uzielli ; J. P. Walters ; Miss V. Witherby ; N. Wykes.

Members of the B. O. C. 59 ; Members of the B. O. U. 24 ; Guests 61. Total 144—a figure well up to the average.

As usual at the combined Meeting, the programme consisted of a series of lantern-slides and films of bird-life.

Mr. W. E. Higham opened the Meeting with a wonderful film illustrating the Short-eared Owl (*Asio f. flammeus*) at its nest. The bird fed its young chiefly on field-voles (*Microtus agrestis*), and, judging by the number brought in, it must be of the greatest value to agriculturalists and others in keeping down these vermin.

Mr. Jack Vincent exhibited a series of slides illustrating a day in the life of a field-collector from the Portuguese East African Expedition 1931–1932. Most of his journeying was done with a motor lorry, and the proper way to collect, skin, and keep records of specimens was clearly shown. Mr. Vincent rightly pointed out that all collectors going to a new area should first study its fauna carefully so as to know what species to look for specially, and thus to avoid killing common birds which are already well represented in Museums and are of little value. Quality, in short, should come before quantity.

Mr. Anthony Buxton showed some splendid slides and films of various marshland birds photographed at Horsey, Norfolk. These included the Bearded Tit (*Panurus biarmicus*); the Bittern (*Botaurus s. stellaris*) at its nest, showing it feeding its young with eels, and also using its powder-puff, as described by Lord William Percy (Bull. B. O. C. lii. 1932, pp. 136–138); a Redshank (*Tringa t. totanus*) leading its young from the nest to a meadow; the Great Crested Grebe (*Podiceps c. cristatus*) at its nest; a Montagu's Harrier (*Circus pygargus*) rearing five young ones; and a Marsh-Harrier (*Circus æ. æruginosus*) rearing three. Young Waterhens formed the principal food for the brood of the latter.

Mr. Ralph Chislett showed a similar series of slides of the Bittern, Montagu's Harrier, and the Marsh-Harrier, also taken at Horsey, and further, a beautiful slide of the Wood-Sandpiper (*Tringa glareola*) from Lapland. This showed the eggs and nest, with the bird in attendance.

The standard of the exhibits was of a high class, and a most enjoyable evening was spent.

Mr. Jack Vincent forwarded descriptions of four new species and eighteen new subspecies of birds which he had collected during the recent Portuguese East African Expedition. He also contributed preliminary observations on some groups reviewed during the course of the work of identifying the collection:—

Pachycoccyx validus canescens, subsp. nov.

The only specimen secured of a very rare genus, differing at first glance from other known birds and races in being by no means blackish, but slate-grey on the upper parts. It is near to *Pachycoccyx validus*, and I propose to call it *P. v. canescens*.

Description.—Differs from *P. validus* in being conspicuously greyer throughout, with entire upper side washed with slaty grey and not with sooty black, and with dark grey tail lacking the brownish tinge so evident in *validus*. The white spotting is everywhere more obvious; also the spots are larger, especially on the upper tail-coverts, but this may be due to the fact that the bird is in such beautifully fresh plumage. Iris dark sepia; eyelids aurora yellow. Bill: maxilla very dark sepia; lower mandible and behind the nostrils raw sienna. Feet pale cadmium orange.

Type.—No. 1829, an adult ♂, in non-breeding condition, shot near Nhauela, Portuguese East Africa, 15·25° S., 37·25° E., at 2750 ft. altitude, on July 13, 1932. Brit. Mus. Reg. no. 1933.3.1.20.

Measurements of Type.—Total length in flesh 360; wing 222; tail 180; culmen from base of skull 30; tarsus 24 mm.

Indicator appelator, sp. nov.

Two Honey-guides secured during the course of the expedition are of very considerable interest, and there seems to be no other alternative than to describe them as ♂ and ♀ of a new species in that they are as unlike *Indicator minor* as they are unlike *I. exilis*.

Description.—The manner in which it differs from *I. minor* is immediately apparent both in size and colour, for there is no tendency towards a greyer head—rather it is much darker and more olive than in any material of *minor*, and uniform with the remainder of the upper parts. In size, with an adult ♂ wing of 78 mm. and an adult ♀ wing of 72 mm., it is nearer the *I. exilis* group, from which it differs, however, in having the upper parts uniform and not heavily striated, and in the pallidity of the underparts. The bill is shorter and narrower than any *minor*—in fact, of similar length to *exilis*, but more swollen.

Plumage Details.—The entire upper side is dark olive, strongly washed with a paler colour, olive-lake, which is more prominent on the rump and upper tail-coverts. The dark centres to the feathers are evident in striations on the forehead and crown, but do not extend on to the nape. Behind each nostril is a white loral spot, the two almost meeting at the base of the culmen-ridge. Ear-coverts greyish-olive, and a darker olive streak extends from the base of the lower mandible to the ear-coverts. Throat white, with faint greyish streaks, which become darker and more prominent on the dirty whitish breast. Chin, abdomen, flanks, and lower tail-coverts white. The tail-feathers have the usual pattern, the innermost pair being blackish-brown, the remainder white, with brown tips. Wing-feathers blackish-brown, with outer webs prominently margined with olive-yellow. Iris dark sepia. Bill blackish, with pale fleshy-blue-grey basal half to the lower mandible. Feet dark new-olive-green.

Type.—No. 825, an adult ♂ in non-breeding condition, shot near Zobué, on Portuguese East Africa–Nyasaland frontier, 15·36° S., 34·27° E., at 2900 ft. altitude, on April 6, 1932, Brit. Mus. Reg. no. 1933.3.1.19.

Measurements of Type.—Total length in flesh 145 ; wing 78 ; tail 53 ; culmen 10 ; tarsus 14 mm.

Measurements of ♀. Total length in flesh 141 ; wing 72 ; tail 45 ; culmen 9 ; tarsus 14 mm.

Anthus richardi lichenya, subsp. nov. ; and a review of the species in Portuguese East Africa and Nyasaland.

Many have gone into the subject of the Pipits, and a great deal of work remains to be done, but my large series of twenty-eight birds shows some interesting facts which I shall state briefly. To begin with they are divisible into the following three groups in the countries concerned :—

On the central plateau east and west of Southern Nyasaland, that is, from the Mlanje and Namuli Mountains on the one side and Angonia on the other, extending to the Zambezi Valley, the birds are rufescent, and should be classified as *A. richardi raaltenii.* In the littoral of Portuguese East Africa north of the Zambezi the birds are attributable to the subspecies *A. r. lacuum*; but birds from Mlanje Mountain are markedly different and, together with skins in the National Collection from the same locality, are immediately apparent as very much darker birds, for the differences are constant in all specimens from the mountains of Southern Nyasaland.

The only dark bird from a lower altitude was taken near Chilwa, within a few miles of Mlanje, and as it is the only one taken during the winter months, it may be reasonably concluded that the birds wander down from the mountain-tops to some extent during the colder weather. Specimens from the Namuli massif to the east show some affinity with this new race, but approach nearer to *lacuum*. It is a resident breeding species in the type-locality.

Description.—Similar to *A. r. raaltenii* and *A. r. lacuum*, but very much darker in every respect than either, with the upper parts more dusky, the feathers of the back having only very narrow paler margins to the dark sepia centres, and with a blackish-brown head-top showing only faint traces of the pale edges to the feathers. The underside shows the most prominent characteristic, as the abdomen has little or no trace of the reddish seen in other races, and the entire underparts are of a leaden hue which, if the time of year was consistent with such a possibility, gives the impression that the bird is discoloured by newly-burnt veld—in other words, it has the tinge of the London Sparrow. Iris dark sepia. Bill dark sepia, with yellow ochre basal two-thirds to the lower mandible. Feet pallid sunburnt flesh, more brownish on the toes. Young birds of the race show profuse striation on sides of throat and on the upper breast, a distinctly yellowish abdomen, and the rounded feathers of the upper parts have conspicuous yellowish margins, giving a generally spotted appearance.

Distribution.—Apparently confined to the mountains of Southern Nyasaland—Mlanje and the nearby Zomba and Mlosa.

Type.—No. 76, an adult ♀ collected by myself on Mlanje Mt., Nyasaland, at 6500 ft., on December 27, 1931, with sexual organs in winter condition. Brit. Mus. Reg. no. 1933.3.1.16.

Measurements of Type.—Total length in flesh 170; wing 80; tail 53; culmen from base of skull 17; tarsus 27 mm.

Phyllastrephus orostruthus, sp. nov.

This bird is quite unlike anything occurring in the National Collection and anything hitherto described; but it is evidently one of the *Phyllastrephus* group, and possesses the characteristically reddish tail of that genus.

Description.—Upper parts dark brownish-olive, with the head-top darker and conspicuously washed with sepia. Upper tail-coverts dark cinnamon-brown. Tail-feathers dusky liver-chestnut, merging to dark cinnamon-brown at the outer edges of the feathers. Ear-coverts brownish-olive, only slightly paler than the head-top. Lores dusky greyish-brown. A faintly paler superciliary streak extends from above the eye to the side of the neck. Chin and throat whitish, with faint yellowish centres to some of the feathers and speckled with faint greyish-brown at the sides of the chin. Breast and abdomen very pale straw-yellow, with the upper breast profusely discoloured with dark olive-green dapplings. Sides of breast and flanks dark olive-green, faintly streaked with yellowish-white. Wing-feathers dusky brown, with entire outer webs dark cinnamon-brown, only slightly paler than the edges to the tail-feathers. Lower wing-coverts dusky greyish-brown. Iris sepia. Bill black. Feet ash-grey.

Type.—No. 2052, an adult ♂ shot by myself on Namuli Mt., Portuguese East Africa, 15·21° S., 37·04° E., at 4800 ft. altitude, on August 8, 1932. Brit. Mus. Reg. no. 1933.3.1.5.

Measurements of Type.—Total length in flesh 186; wing 82·5; tail 69·5; culmen from base of skull 21; bill from gape 23, from nostril 12; tarsus 27·5 mm.

Phyllastrephus flavostriatus litoralis, subsp. nov.

Birds which I obtained in the coastal belt of Portuguese East Africa near Mozambique were at a very much lower altitude than has been hitherto recorded for the species. They are clearly separable from either the typical race or *P. f. tenuirostris*.

Description.—Similar to *P. f. flavostriatus* and *P. f. tenuirostris*, but the upper parts are neither so dark nor so brown as other birds taken at fairly low altitudes in Zululand, and are much paler and more brownish than the series of birds from

Nyasaland and the Namuli Mountains of Portuguese East Africa. Head-top a paler grey than either. The most conspicuous difference is seen in the underparts, which are lighter in general and, when examined in detail, especially in the white abdomen. The white is extended on to the flanks, where the suffusion of olivaceous grey so clearly marked in the other two races is almost absent. The longitudinal streaks, also, are of a brighter lemon-yellow, and there is no grey on the upper breast. These differences are defined equally in both sexes. Iris burnt umber. Bill black. Feet bluish-slate-grey.

Distribution.—Apparently confined to the coastal lowland forest of Mozambique Colony, north of the Zambezi.

Type.—No. 1370, an adult ♂, in non-breeding condition, shot near Netia, Mozambique Province, Portuguese East Africa, 14·44° S., 40·04° E., at 600 ft. altitude, on June 1, 1932. Brit. Mus. Reg. no. 1933.3.1.2.

Measurements of Type.—Total length in flesh 232 ; wing 99 ; tail 95 ; culmen from base of skull 25·5 ; tarsus 23 mm.

Phyllastrephus alfredi itoculo, subsp. nov. ; and *P. alfredi* renewed as a distinct species.

Specimens of this brown-headed bird, hitherto considered a race of *Phyllastrephus flavostriatus,* collected in the same locality as *P. f. litoralis,* the new coastal race of *flavostriatus* here described, prove that *alfredi* must be a distinct species. In fact my new material from Portuguese East Africa is of interest in showing that these two species, known from many mountain forests, have each a coastal race found in northern Mozambique, in each case distinguishable by their paler coloration.

Description.—Similar to *P. alfredi,* but head-top paler brown and more olivaceous, uniform with rest of upper parts. Tail redder or more cinnamon-brown. Underparts absolutely pallid when compared with *alfredi* ; the throat white, bordered by prominent greyish-brown malar streaks ; rest of underparts creamy white, on which the pale yellow streaks are scarcely visible, only slightly darker and more yellowish on the lower tail-coverts. The sides of the breast and flanks are darker and lightly washed with brownish-olive. The differences are similar in both sexes. Iris naples' yellow. Bill black, with paler streak along the cutting-edges. Feet pale fleshy mineral grey. Immature birds may be distinguished by the colour of the iris, which is mineral grey.

Distribution.—Apparently confined to coastal lowland forest of Mozambique Colony, north of Zambezi.

Type.—No. 1376, an adult ♂, in non-breeding condition, shot near Netia, Mozambique Province, Portuguese East Africa, 14·44° S., 40·04° E., at 600 ft. altitude, on June 2, 1932. Brit. Mus. Reg. no. 1933.3.1.1.

Co-type.—No. 1374, adult ♀, shot simultaneously with the type.

Measurements of Type.—Total length in flesh 231 ; wing 96 ; tail 93 ; culmen from base of skull 24 ; tarsus 22·5 mm.

Measurements of Co-type.—Total length in flesh 201 ; wing 84 ; tail 85 ; culmen from base of skull 21·5 ; tarsus 22 mm.

Hyliota australis inornata, subsp. nov.

Description.—Resembles *H. a. australis*, but has the underparts paler, more whitish, and with less of the buffish wash, and the upper parts show a tendency towards sooty black rather than dark umber-brown ; but the chief characteristic, constant in the series, is found in the tail-feathers. The two outermost pairs of rectrices in the typical *australis* are black, with only a faint trace of white on the outer margins of the feathers ; but in this new race the outermost pair of rectrices are white, and only black at the extreme tips and bases to the feathers ; the next pair are black, with white basal two-thirds to the outer webs, and there is a white margin to the outer webs of the next two pairs. Iris dark sepia. Bill black, with basal two-thirds of the lower mandible pale blue-grey. Feet dark slate. The increased white in the tail is evident in both sexes.

Type.—No. 759, an adult ♂ shot by myself near Zobué, Tete Province, Portuguese East Africa, 15·47° S., 34·19° E., at 2200 ft. altitude, on April 1, 1932. Sexual organs in winter condition. Brit. Mus. Reg. no. 1933.3.1.3.

Co-type.—No. 760, an adult ♀ shot side by side, and apparent pair, with the type.

Measurements of Type.—Total length in flesh 130 ; wing 72 ; tail 46 ; culmen from base of skull 14 ; tarsus 18 mm.

Measurements of Co-type.—Total length in flesh 126 ; wing 67·5 ; tail 40 ; culmen from base of skull 14 ; tarsus 18 mm.

Remarks.—Three of the series were shot on the Nyasaland side of the frontier of Portuguese East Africa, some 12 miles from the others and the type, and constitute the first record of the species for Nyasaland. In all seven adults were obtained.

Seicercus ruficapilla quelimanensis, subsp. nov.

Description.—Resembles *S. r. ruficapilla* and *S. r. johnstoni*, but has the yellow of the throat appreciably paler than either, more restricted than *ruficapilla* and less restricted than *johnstoni*, extending slightly on to the chest and culminating in a very distinctive V-shaped apex. The centre of the abdomen is pure white, absolutely lacking any wash of the yellowish evident in all other races ; the white is restricted also to the abdomen, and separated from the yellow throat by the broad grey band of the upper breast. The crown is intermediate in hue between the dark mustard shade of the typical race and the much darker sienna-brown of *S. r. johnstoni*.

An even more conspicuous characteristic is the slate-grey back and rump, lacking any trace of the darker brownish or greenish wash ; in fact the brown of the head-top, in the case of the Portuguese East African birds, culminates in an abrupt and clearly defined line on the nape, and does not merge into the grey of the back as is shown in all the recorded races. The wing and tail edging is also of a much brighter green. Iris dark sepia. Maxilla dark sepia ; lower mandible yellow-ochre. Feet yellowish-blue-grey. Soles raw umber.

Type.—No. 1912, an adult ♂ shot on Namuli Mt., Quelimane Province, Portuguese East Africa, 15·21° S., 37·04° E., at 5600 ft. altitude, on July 25, 1932. Brit. Mus. Reg. no. 1933.3.1.14.

Co-type.—No. 1913, an adult ♀ shot side by side, and apparent pair, with the type. Sexual organs of both birds near winter condition.

Measurements of Type.—Total length in flesh 119 ; wing 58 ; tail 44 ; culmen 9 ; tarsus 20 mm.

Measurements of Co-type.—Total length in flesh 111; wing 52; tail 40; culmen 9; tarsus 20 mm.

Remarks.—This is yet another new race from the principal massif of northern Portuguese East Africa. The differences given in the above description are very marked, and are constant in the four adults secured, all from Namuli Mountain, and the remaining two from altitudes of 4600 and 5800 ft.

Erythrocercus livingstonei monapo, subsp. nov.

Having obtained an excellent series of nineteen specimens of this bird, which has been hitherto considered rare, and which I collected in many widely separated localities in Portuguese East Africa and Nyasaland, I have been able to review the two species *E. livingstonei* and *E. thomsoni*, and have proved that the latter is no longer a distinct species, but only a race of the Zambezi bird *E. livingstonei*; for, by collecting nine birds of *thomsoni*, represented in the National Collection by only two specimens from the Rovuma, I was able to extend its range southwards to the Lurio River; shortly after this, and a little further to the south, in the lower valley of the Monapo River, I secured birds of an intermediate race showing the grey head of the Zambezi *livingstonei*, but with some of the yellow throat and the heavily spotted tail of *thomsoni*. Further specimens of the true *livingstonei* were later secured in the Zambezi Valley.

Description.—Generally resembles *E. livingstonei* and *E. thomsoni*, but cannot be confused with the latter by reason of its greyish head-top, defined from the greenish back, and by its whitish throat, not so clearly white as in *livingstonei*, but rather with the chin white and the throat washed with yellowish. It is immediately separable in turn from *livingstonei* not only from the throat, but more clearly from the tail-spots, which are as large, dark, and conspicuous as in *thomsoni*. The bare parts are similar—irides dark sepia. Bill white, with pale permanent brown culmen. Tarsi roman sepia. Toes raw umber.

Distribution of the three races is as follows:—

E. livingstonei livingstonei.—The lower valleys of the Zambezi and Shiré Rivers.

E. livingstonei monapo.—The lower valley of the Monapo River near Mozambique.

E. livingstonei thomsoni.—The Rovuma River valley in Tanganyika Territory, extending down through the coastal lowland of Mozambique Colony as far as the Lurio River.

Type.—No. 1231, an adult ♂ near non-breeding condition, shot near Iamorrimo, Mozambique Province, Portuguese East Africa, 14·55° S., 40·25° E., at 400 ft. altitude, on May 25, 1932. Brit. Mus. Reg. no. 1933.3.1.15.

Measurements of Type.—Total length in flesh 116; wing 49; tail 46; culmen from base of skull 11·5; tarsus 17 mm.

Alethe choloensis namuli, subsp. nov.

Two specimens secured of a new race of a species only known from Cholo Mountain, in Southern Nyasaland, both adult males in non-breeding condition, and shot in close company. Stomach-contents—driver-ants and small beetles. Specimens of the typical race were obtained also, and the new race is named as above in order to perpetuate my exploration of the Namuli Mountains, where many rare birds were obtained.

Description.—Resembles *A. c. choloensis* very closely, but has a conspicuous difference in the increased paleness of the underparts. The clear white throat is similarly defined from the dirty white upper breast, but the entire abdomen is clear white, and the dirty or greyish coloration is confined to the flanks. Another character, which I take as being a good one, is found in the lesser amount of white on the outer web of the outermost rectrices. Irides sepia. Bill black. Feet ashen pallid flesh.

Distribution.—Apparently confined to the Namuli massif.

Type.—No. 1906, an adult ♂ from Namuli Mountain, Quelimane Province, Portuguese East Africa, 15·21° S., 37·04° E., shot by myself, at 5600 ft. altitude, on July 25, 1932. Brit. Mus. Reg. no. 1933.3.1.3.

Measurements of Type.—Total length in flesh 193; wing 100; tail 69; culmen from base of skull 20; tarsus 31 mm.

Alethe anomala gurué, subsp. nov.

Like the *Alethe choloensis* described, another example of differing races of a species occurring on "island" mountains—a counterpart of the conditions existing in northern Tanganyika Territory.

It is obvious that such localized forms should possess names of geographical significance, and Gurué is the name of the Portuguese Administrative Post at the base of Namuli Mt.

Five specimens were secured, 3 ♂♂, 1 ♀, and 1 immature ♀, all in non-breeding condition.

Description.—Resembles *A. a. anomala*, especially as to the upper parts, but darker on the head-top and on the upper side as a whole. The back of the typical race is as described in 'The Ibis,' 1893—uniform brown, with a distinctly rufous shade. This is lacking in the Portuguese birds, which possess a distinct dark greenish shade. The darker coloration is reflected in the less rufescent tail and the more blackish primary wing-feathers. Irides dark sepia. Bill black. Feet greyish permanent brown.

Distribution.—Apparently confined to the Namuli Mts.

Type.—No. 1940, an adult ♂, shot by myself on Namuli Mt., 15·21° S., 37·04° E., Quelimane Province, Portuguese East Africa, at 5600 ft. altitude, on July 28, 1932. Organs in non-breeding condition. Brit. Mus. Reg. no. 1933.3.1.4.

Co-type.—No. 1939. Paired with type and an adult ♀.

Measurements of Type.—Total length in flesh 167; wing 77·5; tail 59; culmen from base of skull 18; tarsus 30 mm.

Measurements of Co-type.—Total length in flesh 163; wing 75·5; tail 57; culmen from base of skull 18; tarsus 29 mm.

A Review of the East African Races of HELIOLAIS ERYTHROPTERA.

A good series of the species which I collected at various localities throughout northern Portuguese East Africa showed that none of my birds was attributable to the race *H. e. kirbyi*, and I was led to make further investigations, with the following results :—

The type of *rhodoptera*, described by Shelley in 'The Ibis,' 1880, p. 333, is in the British Museum, and on comparing it with Haagner's description of *kirbyi*, from the Quelimane Province of Portuguese East Africa, I am forced to conclude that *rhodoptera* was not considered when *kirbyi* was described. Further comparisons of both with my specimens, also from the Quelimane Province of Portuguese East Africa, show that *kirbyi* must be a synonym.

As for van Someren's *kavirondensis*, described in Nov. Zool. xxix. p. 218, I can only add that, in the absence of any birds from his type-locality, the description he gives is applicable in every respect to any East African bird, whether from Tanganyika or Southern Rhodesia, which are all "quite different from typical *H. erythroptera*" of the Gold Coast, and also have the "bill brown, not black." Bill coloration is not a determining factor, as there seems to be considerable seasonal change in its intensity.

Therefore I consider that the following races should be recognized :—

H. erythroptera erythroptera.—Gold Coast to N. Nigeria and Togoland.

H. erythroptera jodoptera.—Cameroon highlands east along Uele to Bahr el Ghazal.

H. erythroptera major.—S.W. Abyssinia.

H. erythroptera rhodoptera.—Eastern tropical Africa from south-east of Lake Victoria, through Tanganyika, to Nyasaland, the Zambezi Valley, Mashonaland, and the Gaza district of southern Mozambique.

Alongside the last-named, the new species next described is found in the littoral of northern Mozambique.

Heliolais castanopsis, sp. nov.

Nine specimens were obtained, all consistently unlike the grey-headed *H. erythroptera rhodoptera*, which is found to the south, to the west, and to the north of them, and the dissimilarity is so great that I propose to create a new species, as above.

Description.—Differs from *H. erythroptera rhodoptera* in the entire absence of any greyish coloration in the uniformity of the upper parts, which are of a strange reddish-brown hue, between auburn and chestnut, which merges to true chestnut-brown on the upper tail-coverts. In general coloration it resembles the Abyssinian *H. erythroptera major*, but is unlike that bird in having a deep suffusion of cinnamon on the abdomen and flanks and pale grey lores. Also differs in other respects, such as having a bill of 18 mm. against 21 mm. Iris dark mars yellow. Bill ashen whitish, with pale roman sepia culmen and terminal half to lower mandible. Feet yellowish or roman ochre.

Type.—No. 1734, an adult ♂ shot by myself at the mouth of the Lurio River, Portuguese East Africa, 13·30° S., 40·30° E., at sea-level, on June 29, 1932. Brit. Mus. Reg. no. 1933.3.1.9. Sexual organs down to winter condition, but adults still accompanied by immature birds.

Measurements of Type.—Total length in flesh 149 ; wing 54 ; tail 67 ; culmen from base of skull 18 ; tarsus 21 mm.

Apalis melanocephala tenebricosa, subsp. nov.

Thirteen specimens, all in breeding condition, of this very distinct race were obtained from the "island" mountain of Namuli, in northern Portuguese East Africa.

Description.—Resembles *A. m. melanocephala* of Tanganyika, but differs in the very much more saturated coloration of the upper parts, which, instead of ash-grey, are jet-black and uniform throughout. The females are similar to *melanocephala*, thus there is a conspicuous difference between the sexes in this race. The entire underparts are also more dusky, and have a sooty wash. Iris dark mars orange. Bill black. Feet brown ochre.

Type.—No. 2051, an adult ♂ shot by myself on Namuli Mt., Quelimane Province, Portuguese East Africa, 15·21° S., 37·04° E., at 4800 ft., on August 8, 1932. Testes in full breeding condition. Brit. Mus. Reg. no. 1933.3.1.10.

Measurements of Type.—Total length in flesh 157 ; wing 52 ; tail 77 ; culmen from base of skull 13 ; tarsus 18 mm.

Remarks.—These birds were confined to mountain forest, and I could not trace them below 4600 ft. altitude, whereas the typical race has been obtained down as far as 1150 ft.

Apalis melanocephala fuliginosa, subsp. nov.

Yet another "island" mountain race of this attractive little forest Warbler.

Description.—Generally resembles *A. m. melanocephala* and the other new race *tenebricosa*. It is dusky on the underparts in a similar manner to the latter, but differs from both on the upper parts. The head-top and hind neck are as black as the entire back of *A. m. tenebricosa*, and sharply defined from the grey back. Iris dark mars orange. Bill black. Feet pale burnt umber.

Type.—No. 2135, an adult ♂ shot by myself, together with another male with which it was fighting, on Cholo Mt., Nyasaland, 16·02° S., 35·03° E., at 4200 ft. altitude, on September 2, 1932. Brit. Mus. Reg. no. 1933.3.1.11.

Measurements of Type.—Total length in flesh 150 ; wing 51 ; tail 69 ; culmen from base of skull 14 ; tarsus 18 mm.

Remarks.—All the specimens were obtained in September, and had sexual organs not yet in breeding condition, although the birds appeared to be pairing at the time.

Apalis lynesi, sp. nov.

I am unable to find any birds which may be said to approach this obviously new *Apalis*, but there are two species with which it might be briefly compared, namely, *A. binotata* and *A. jacksoni*. It is only like *binotata* of Ruwenzori in having the black of the throat continued on to the chest, for the abdomen is deep yellow instead of white, and the head-top is blue-grey instead of umber-brown. It is like *jacksoni* of Elgon as to the colour of the upper side only, for the black of the throat is extended further on to the chest than in that species, and the moustache stripes and the white in tail and wings are absent. I propose to call this bird *Apalis lynesi*, as a compliment to Rear-Admiral Lynes, C.B., but for whose kind introduction to the British Museum authorities the Portuguese East African expedition would not have been carried out by myself.

Description.—Forehead, crown, ear-coverts, hind-head, nape, and mantle bluish-slate-grey. Remainder of upper parts olive-green. Tail-feathers slate-grey with blackish centres, the outermost pair with entire terminal half white, and the next pair showing some white on terminal one-third of inner web. Lores, chin, throat, and chest black, not ending in a distinct line, but speckled with olive-green and yellow at the base, fusing irregularly with the primrose-yellow of the breast and abdomen. Sides of breast, flanks, and lower tail-coverts yellowish-olive-green. Under wing-coverts lead-grey, tipped darker, and with a faint wash of yellow. Primaries and wing-coverts blackish, with narrow margins of olive-green to the outer webs of the feathers. Iris pale permanent yellow. Bill black. Feet brown ochre. Many specimens show traces of the slate-grey head-colouring in the black of the throat, and some have the black chin and throat almost surrounded by a ring of slate-grey ; this is undoubtedly a sign of immaturity.

Type.—No. 2025, an adult ♂ shot in the forest on Namuli Mt., Quelimane Province, Portuguese East Africa, 15·21° S., 37·04° E., at 5000 ft. altitude, on August 5, 1932. Testes starting up to breed. Brit. Mus. Reg. no. 1933.3.1.12.

Measurements of Type.—Total length in flesh 138 ; wing 54 ; tail 53 ; culmen 12·5 ; tarsus 19·5 mm.

Co-type.—No. 2024, adult ♀ shot simultaneously, and apparent pair, with type.

Measurements of Co-type.—Total length in flesh 124 ; wing 51 ; tail 45 ; culmen 12·5 ; tarsus 19·5 mm.

I was able to secure a series of eleven specimens between altitudes of 4500 ft. and 6200 ft., mostly with sexual organs in non-breeding condition. Stomach contents : ants and small Coleoptera.

Average measurements of ♂♂.—Total length in flesh 132 ; wing 53±1 ; tail 51±2 ; culmen 13 ; tarsus 19·5 mm.

Average measurements of ♀♀.—Total length in flesh 129 ; wing 51±1 ; tail 47±2 ; culmen 13 ; tarsus 19·5 mm.

Ptyonoprogne rufigula fusciventris, subsp. nov.

Birds from northern Portuguese East Africa and Nyasaland are clearly separable from the typical *P. rufigula,* although just as much smaller than the southern species, *P. fuligula.*

Description.—Resembles *P. r. rufigula,* but a shade darker than any of that race on the upper side. The most conspicuous dissimilarity, however, is seen on the underparts, which lack all the warm colouring, in that the tawny buff of the chin and throat ceases on the lower throat, leaving the entire breast and abdomen sooty brown. Rear-Admiral Lynes has very kindly compared his own series from Tanganyika Territory with my birds, and finds that they are similarly applicable to this new race.

Type.—No. 2015, an adult ♂, in full breeding condition, shot by myself on Namuli Mt., Quelimane Province, Colony of Mozambique, 15·21° S., 37·04° E., at 6200 ft. altitude, on August 4, 1932. Brit. Mus. Reg. no. 1933.3.1.21.

Measurements of Type.—Total length in flesh 134; wing 112; tail 45; culmen from base of skull 11; tarsus 10 mm.

CINNYRIS NEERGARDI
(an abolished species renewed).

The bird in the National Collection collected by Capt. C. H. B. Grant at Coguno, in southern Portuguese East Africa, and described by him (Bull. B. O. C. xxi. 1908, p. 93), is stated in W. L. Sclater's 'Systema Avium Æthiopicarum' as being *C. shelleyi neergardi*; but it cannot be a race of *shelleyi*, as it has conspicuous yellow pectoral tufts. The typical *shelleyi* has been known hitherto only from the type; but I have brought back a long series of the species from the colony of Mozambique, and it proves that the pectoral tufts never occur. Then again, the specimens of *neergardi* have a very small bill when compared with *shelleyi*, and seem to be nearest to *C. reichenowi*; but they differ in turn from that species in having the distinctive blackish-brown abdomen.

We cannot have a race of *reichenowi* so far to the south of any known representative of that species, for it would leave out the whole of East Africa, and I found no evidence of a bird approaching *reichenowi* in northern Mozambique. I would venture to suggest, therefore, that *neergardi* should remain a distinct species, as originally described.

CINNYRIS CHALYBEUS.
Review of species as affecting Portuguese East Africa, with description of three new subspecies.

The long series of *C. chalybeus* collected in northern Mozambique, and from three distinctly separable localities, raises some points of interest, the full discussion of which must necessarily entail a considerable amount of detail. Turning first of all to one Tanganyika race, it is found that *C. manoensis* was described according to size, and Reichenow (Ornith. Monatsber. xv. 1907, p. 200) says :—" Like *chalybeus*, but wing and bill larger, W. 60, B. 22." On mere measurement it would seem to be a race of doubtful identity, as Rhodesian birds of *C. c. subalaris* were in accordance with the dimensions given. But it does not appear to concern the Portuguese East African birds, and will have to stand until further material is forthcoming from the type-locality.

Dealing next with the other Tanganyika race, *C. gertrudis*, and the more western, *C. ludovicensis*, it is obvious that both may be left as they stand, and do not affect my Portuguese East African birds, of which sixteen males average, wing 60–64; bill 21–22 mm., for *gertrudis* has a much smaller wing and bill—wing 53; bill 17 mm.—and *ludovicensis* has a wing similar to *subalaris*, but again a smaller bill—wing 60–62; bill 17–18 mm.

Now, turning to the race *C. c. subalaris*, it is found that the southern Rhodesian and southern Mozambique birds, with wing 61–64 and bill 21 mm., coincide with my birds north of the Zambezi; but they, in turn, are consistently different from the South African birds nearer to the type-locality in Pondoland, which have a much smaller wing of 55–56 mm. It is obvious, therefore, that *subalaris*, as it stands at present, must be subdivided.

Finding that a definition of the races by measurement leads to no conclusive result, the question of colour is considered. A long series of *subalaris* in the British Museum Collection was compared with the birds of northern Mozambique, and it was found that they are immediately separable, as regards the coloration of the abdomen, into four distinct groups. The differences are very clearly apparent and constant throughout each series, only those birds at the extremes of the distributions of the four " water-tight compartments " showing some evidence of intergradation.

To summarize my investigations I shall enumerate the races in turn, briefly stating the respective characteristics and distribution.

1. CINNYRIS CHALYBEUS SUBALARIS.

Has a large culmen and a small wing. Average measurements: wing 55–56; bill 21 mm. Pondoland, Natal, and Zululand, merging into 2. in Transvaal.

2. **Cinnyris chalybeus bractiatus,** subsp. nov.

Has a large culmen and a large wing. Average measurements; wing 61–64; bill 21 mm. This has become distinctly paler on the abdomen than *subalaris.*

Description.—Differs from *subalaris* in the very much paler and greyish abdomen.

Distribution.—Mashonaland and the Gaza district of southern Portuguese East Africa.

Type.—An adult ♂ collected by Sowerby at Fort Chiquaqua, Mashonaland, on August 30, 1877. Brit. Mus. Reg. no. 1898.5.2.32.

Measurements of Type.—Total length in skin 133; wing 64·5; tail 43·5; bill, exposed culmen, 21; tarsus 17 mm.

3. **Cinnyris chalybeus zonarius,** subsp. nov.

Similar to *bractiatus* in measurements. Average of my six adult males: wing 61–64; bill 21–21·5 mm., but absolutely different in the coloration of the underparts, having the abdomen much paler greyish-white, conspicuously washed with yellowish-olive.

Distribution.—Portuguese Angonia and the Kirk Mts., west of Southern Nyasaland.

Type.—An adult ♂ in partial breeding condition shot by myself near Zobué, Portuguese East African–Nyasaland frontier, 15·36° S., 34·27° E., at 2900 ft. altitude, on April 10, 1932. Brit. Mus. Reg. no. 1933.3.1.7.

Measurements of Type.—Total length in flesh 133; wing 62; tail 43; bill 21; tarsus 17·5 mm.

4. **Cinnyris chalybeus namwera,** subsp. nov.

Similar to *bractiatus* and *zonarius* in measurement. Average of my ten adult males: wing 60–64; bill 21–22 mm., but distinct again in colour, being still paler grey on the abdomen, almost white, with no trace of the yellowish wash.

Distribution.—The highlands east of Lake Nyasa and Southern Nyasaland.

Type.—An adult ♂ in non-breeding condition, shot by myself on Mangoche Mt., Nyasaland, 14·22° S., 35·32° E., at 3700 ft. altitude, on May 6, 1932. Brit. Mus. Reg. no. 1933.3.1.8.

Measurements of Type.—Total length in flesh 132 ; wing 65 ; tail 45 ; bill 21 ; tarsus 17·5 mm.

Ploceus aureoflavus pallidiceps, subsp. nov.

This bird is quite unlike *P. subaureus,* which is found some considerable distance to the south, in its brighter coloration, generally smaller size, and somewhat differently shaped bill. It is evident that it is a southern representative of *P. a. aureoflavus* of Zanzibar, although I do not altogether dismiss the possibility of its being proved later that the bird may show some intergradation between the two species *P. subaureus* and *P. aureoflavus.* [See also Smith, Ill. Zool. S. Afr., Aves, text to plate 30, 1839.]

Description.—Generally resembles *P. aureoflavus,* but adult males differ in the complete absence of any of the saffron coloration so characteristic of the forehead and throat in the typical race. The chin and throat of this new bird are uniform with the pale canary-yellow underparts, and there is more evidence of greenish on the back ; also it is considerably larger. Iris orange-vermilion. Bill black. Feet roman ochre.

Type.—No. 307, an adult ♂ in full breeding condition from a nesting colony of about twenty pairs at Mocuba, Quelimane Province, Portuguese East Africa, 16·52° S., 36·56° E., at 700 ft. altitude, on February 1, 1932. Brit. Mus. Reg. no. 1933.3.1.17.

Measurements of Type.—Total length in flesh 148 ; wing 75 ; tail 43 ; culmen 18 ; tarsus 21 mm.

Remarks.—Although this bird was common in the type-locality, I did not realize its significance, and only two specimens were secured. Further north, however, as far as the Lurio River mouth, three more males and one female were secured. I have classified all these birds as similar, and make the male in breeding plumage the type. I do not think that the Lurio birds, although so much further to the north, are separable on such scanty material, more especially as they were taken in mid-winter, and the fact that they are more greenish on the back than the type is no doubt due to a seasonal change, in that the birds are in fresh plumage. Also the upper parts of the type show some signs of wear.

It is interesting to note that the bill in winter is no longer black, but is whitish-brown, with a darker culmen.

Amadina fasciata albitorquata, subsp. nov.

The specimen secured constitutes the first record of the species for Nyasaland, and is not attributable to any other southern African race.

Description.—Differs from *A. f. fasciata* or *A. f. alexanderi* in three marked respects—(1) in having a distinct white band below the scarlet of the throat extended round behind the ear-coverts, although not on to the hind-neck; (2) in the markedly smaller bill; and (3) in the almost entire absence, or only the barest indication, of a brown abdominal patch. The only bird in the National Collection possessing this deficiency is the southernmost recorded bird of *alexanderi* from Dar-es-Salaam; but this bird, although differing from others of the race in that respect, is akin to the others, and differs materially from my bird in the differently shaped bill.

Differs from *A. meridionalis* in the paler back, which is almost lacking in black cross-bands, in the under tail-coverts, which are also paler and buffish-cream, and in the unmarked creamy white abdomen. Irides dark raw umber. Bill pale bluish-grey, with darker slate-grey culmen. Feet whitish-brown.

Type.—No. 970, an adult ♂ shot at Fort Johnston, Nyasaland, at the south end of Lake Nyasa, at 1700 ft. altitude, on May 1, 1932, with testes well started up to breed. Brit. Mus. Reg. no. 1933.3.1.18.

Measurements of Type.—Total length in flesh 125; wing 62; tail 33; bill from base of culmen 11; tarsus 13·5 mm.

Cryptospiza reichenowi sanguinolenta, subsp. nov.

Five specimens of this species were collected in Southern Nyasaland and the nearby mountains of Portuguese East Africa, and they have been compared with twelve *C. r. ocularis* from Ruwenzori, four *C. r. reichenowi* from West Africa, and nine birds from Tanganyika. Although the first two groups stand, the remaining fourteen birds are entirely different.

The Tanganyika birds appear inseparable from mine, although there is a slight general difference which may be proved of more importance by further material; nevertheless, the dissimilarity between them and the two known races is only too obvious.

Description (compared with *C. r. reichenowi* and *C. r. ocularis*).—Shows a greenish-grey underside, paler and greyish-olive on chin, little contrast in the throat and abdomen, and only slightly darker on the lower tail-coverts ; whereas *ocularis* has the underside of a general buffy olive, with the chin and throat paler than, but more like, *reichenowi*, which has the entire underparts brownish-olive, especially dark on the abdomen and more buffish on chin and throat. In short, *reichenowi* is a dark brownish-breasted bird, *ocularis* buffish, and *sanguinolenta* greyish-green.

Distributions.—

C. r. reichenowi.—Mountains of Fernando Po and Cameroon.

C. r. ocularis.—Ruwenzori Mts.

C. r. sanguinolenta.—Mountains of Tanganyika Territory and Portuguese East Africa north of the Zambezi, also Mlanje Mts. of Nyasaland.

The two specimens from Mlanje Mt. constitute the first record of the species for Nyasaland.

Type.—No. 129, an adult ♂ shot by myself on Mlanje Mt., Southern Nyasaland, at 6300 ft. altitude, on January 3, 1932, in partial breeding condition. Brit. Mus. Reg. no. 1933.3.1.6.

Measurements of Type.—Total length in flesh 120 ; wing 53 ; tail 40 ; culmen 11 ; tarsus 18 mm.

Co-type.—No. 128, an adult ♀, paired with the type.

Measurements of Co-type.—Total length in flesh 121 ; wing 53 ; tail 37 ; culmen 11 ; tarsus 18.

Mr. Jack Vincent also forwarded the following remarks on

LYBIUS ZOMBÆ ;

an interesting example of a recent change in the coloration of an East African species.

During the course of the recent Portuguese East African Expedition I collected a series of nineteen examples of *Lybius zombæ*, and comparison with existing specimens in the National Collection revealed some interesting theoretical possibilities.

The original specimens, with which this comparison has been made, consist of eighteen adult birds collected by Sharpe, Whyte, and Kirk in Nyasaland at varying dates from about 1870 to 1902. Nine of these skins from the type-locality, Zomba in Nyasaland, have the feathers of the chin, throat, and forehead of a pale pinkish colour, and they are of normal structure ; seven skins have similar feathering, but are whitish, only tinged with pink ; whilst the remaining two have entirely white feathers, which appear shorter and more spiny. All my birds are similar to these last two, but closer inspection of the apparently smaller feathers gives one the impression of wear. The possibility of their being worn, however, is inconsistent with the generally fresh plumage of many specimens, and, although the birds were collected at varying dates throughout the year, this "worn" character of the throat-feathers remains consistent. Dr. P. R. Lowe has been kind enough to examine both types of feathers under the microscope and, although the subject has not been yet fully investigated, it does not appear as though there is any structural change, although the entire series shows that the barbules are "worn" or lacking from the terminal portion of the barbs of the feathers. It is fairly obvious that some very interesting change is taking place, and one which is reflected in the coloration.

The species is surrounded in its range by the red-throated *Lybius torquatus*, and when the last specimens were collected, thirty to forty years ago, we see that the larger proportion of Southern Nyasaland birds seemed to show some of the character of *torquatus* in their pinkish throat-coloration. But this seems to be entirely absent now, as my birds, many from the type-locality, are colourless as to the white feathering of the head and neck. It is interesting to note that F. Stresemann and H. Grote, on p. 374 of the Report on the International Ornithological Congress at Copenhagen, 1926, mention this species, and suggest that the darker headed birds would predominate, and it seems as though this is precisely what has occurred within the short space of three or four decades.

I found the species to be extremely common at a spot within 20 miles of Zomba, and saw many scores of the birds during the course of my stay; I was invariably able to watch them at close quarters, and can confidently assert that I saw no single individual showing any trace of the pinkish coloration. Two races of the species have been recognized—typical *zombæ*, characterized by the throat-feathers being pinkish, and *albigularis*, distinguished by their being entirely white. But it seems evident that two races cannot stand any longer, as the pink form has been obviously dominated throughout the entire distribution of the species. Therefore I have classified all my specimens merely as *Lybius zombæ*, and the present relationship between this species and the red-headed *Lybius torquatus* remains to be determined by someone cleverer than myself, whose interest may be aroused by my preliminary observations.

Col. R. Meinertzhagen sent the following descriptions of two new forms of *Ammomanes deserti* from the Ahaggar Plateau, Central Sahara:—

Ammomanes deserti bensoni, subsp. nov.

Description.—Males, in nearly every case, darker than the females, thereby differing from all known forms of this species. The male is much darker than any other African form, approaching the dark *A. d. annæ* from the Arabian Desert. The female is paler than the male and pinker, approaching *A. d. janeti* from lower elevations in the Ahaggar Plateau.

Measurements.—Bill as large as in *A. d. mya.* Wings varying from 97 mm. in females to 107 mm. in males. Eighteen examined.

Distribution.—Higher elevations in the Ahaggar Plateau, and seldom found off the black, desert-varnished, pebbly desert between 6500 and 7900 feet.

Type.—In the Tring Collection at Tring. ♂, Tamsnigat, 6800 feet, Ahaggar Plateau, Sahara, 25. ii. 31.

Ammomanes deserti janeti, subsp. nov.

Description.—Both sexes alike, and resembling the female of *A. d. bensoni.* Bill as large as in *A. d. mya*, but the plumage is not so pink, either above or below. Generally a darker bird than *mya* above, and stands intermediate between it and *A. d. bensoni*.

Measurements.—Wings varying from 96 mm. in females to 106 mm. in males. Seventeen examined.

Distribution.—At lower elevations (2500 to 5200 feet) in the Ahaggar Plateau; collected at Tamanrasset, Arak, and In Eker.

Type.—In the Tring Collection at Tring. ♀, Oued Tamanrasset, 5200 feet, Ahaggar Plateau, Sahara, 23. ii. 31.

Remarks.—Neither of these forms has anything to do with *A. d. geyri* or *A. d. payni*, both of which are much pinker. Ahaggar Plateau birds show scarcely a trace of pink tinge.

Mr. DAVID BANNERMAN sent the following communication in regard to the Hairy-breasted Toothbills (*Tricholæma*) in West Africa :—

The group of Barbets which are listed in the 'Systema Avium Æthiopicarum' (1924, p. 274, and Appendix, p. 859) under the specific name *Tricholæma hirsutum* have engaged the attention of various ornithologists from time to time. I reviewed the group myself in Rev. Zool. Africaine, xii. 4, 1924, pp. 482–486, wherein I corrected a former review which I had contributed to the latter journal when writing on the birds of Southern Nigeria. In both reviews I treated all the forms *chapini*, *ansorgii*, *hybridum*, *flavipunctata*, and *angolense* as subspecies of *Tricholæma hirsutum hirsutum*. This arrangement was adhered to by Mr. W. L. Sclater in the 'Systema Avium Æthiopicarum.' When writing on these birds again, for the third volume of my 'Birds of Tropical West Africa,' I had occasion to consult the latest review, including a Key to the races of *Tricholæma hirsutum*, given by Mr. G. L. Bates in 'The Ibis,' 1931, pp. 268–269. As I find myself in disagreement with Mr. Bates, I wish to take this opportunity of stating on what grounds I am opposed to his conclusions.

In the first place Mr. Bates states in his Key that in *T. h. hirsutum* the throat is black in the male, mottled or streaked in the female. In my opinion the outstanding difference between the male and female of *T. hirsutum* is that the spots on the upper surface and the margins of the secondaries and primary coverts are golden-yellow instead of pale greenish lemon-yellow. This is a perfectly constant character which can be seen throughout all the forms hitherto included as races of *T. hirsutum*. The birds which Mr. Bates believed to be females are, in my opinion, examples of the race which I named *chapini*, with streaked whitish throats. There was every excuse for believing these birds to belong to the same species as the black-throated examples of *hirsutum*, as they were shot in the same area; in fact I had myself made the error in 1924 of considering them immature birds. Mr. Bates overlooked one very important point, however, the obvious difference in the colour of the spots of the males and the females, as pointed out above. As these birds occur side by side, we must now treat *Tricholæma hirsutum*, the only black-throated bird, as a species without any subspecies, and unite all the streaky-throated races—*flavipunctata*, *chapini*, *ansorgii*, and *angolense*—as subspecies of the first-named form, i. e., *Tricholæma flavipunctata* of Verreaux (1855). Neumann's *hybridum* is so obviously a hybrid occurring in the Niger Delta, where the ranges of *flavipunctata* and *chapini* meet, that I consider it cannot be given the status of a subspecies, and therefore discard the name.

One other point I would mention. Under his notes (*loc. cit.* p. 268) on *T. flavipunctata* Mr. Bates states that there is no difference between the sexes which can be seen easily. The fact that in the male the spots are pale lemon-yellow and in the female are golden, and obviously always larger, is a very important sexual distinction which, as I have already stated, is carried right through the group, and is even apparent in the curious race *angolense*.

During my examination of these birds I have had the great advantage of Capt. C. H. B. Grant's assistance, and we have come to the opinions expressed above jointly. With these amendments I hold to the review of these forms given by myself in 1924, both concerning the distinctions in sex and the range of the species and races.

Mr. GREGORY M. MATHEWS sent the following description of a new genus of Fork-tailed Storm-Petrel :—

Tethysia, gen. nov.

Description.—Tarsus longer than the middle toe and claw. Tail not forked for more than about 12 mm.

Type.—*Procellaria tethys* Bonaparte, Compt. Rend. xxxviii. 1854, p. 662, et auct.

Remarks.—This new genus, in the proportion of tarsus to middle toe and claw, fits in the key with *Halocyptena* and *Thalassidroma*, and does not belong to *Oceanodroma* and *Cymochorea*.

CORRECTION.

Capt. C. H. B. GRANT sent the following correction :—

In the 'Bulletin' (*antea*, li. 1931, p. 127, line 30) "On the Kondoa to Iodma main road" should read "On the Kondoa to Dodoma main road."

NOTICES.

The next Meeting of the Club will be held on Wednesday, April 12, 1933, at Pagani's Restaurant, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine are requested to inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

Agenda.

1. Mr. Jack Vincent will read a paper on an Expedition to Portuguese East Africa in 1931–1932, and will exhibit slides and a series of rare and new birds collected there.

2. Dr. G. Carmichael Low will show :—
    - (*a*) A series of skins of Redshanks and Dunlins, in winter plumage, from Stromness, Orkney Islands, and will make some remarks upon the races occurring there.
    - (*b*) A series of skins of the Dowitcher, received from Professor Rowan, of Edmonton, Alberta, Canada.

Bird Room

MAY 1933
PURCHASED

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXVIII.

THE three-hundred-and-sixty-third Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, April 12, 1933.

Chairman : Mr. W. L. SCLATER.

Members present :—Capt. B. ACWORTH ; E. C. STUART BAKER ; F. J. F. BARRINGTON ; S. BOORMAN ; P. F. BUNYARD ; Hon. G. L. CHARTERIS ; W. E. GLEGG ; Capt. C. H. B. GRANT ; Col. A. E. HAMERTON ; Dr. J. M. HARRISON ; Dr. K. JORDAN ; Rev. F. C. R. JOURDAIN ; Dr. G. CARMICHAEL LOW (*Editor*) ; T. H. MCKITTRICK, jun. ; C. W. MACKWORTH-PRAED (*Hon. Sec. & Treas.*) ; Lt.-Col. H. A. F. MAGRATH ; Dr. P. H. MANSON-BAHR ; G. M. MATHEWS ; Dr. W. N. MAY ; Mrs. D. MICHOLLS ; C. OLDHAM ; C. B. RICKETT ; D. SETH-SMITH ; Major M. H. SIMONDS ; Marquess of TAVISTOCK ; Dr. A. LANDSBOROUGH THOMSON ; Miss E. L. TURNER.

Guests :—J. E. HUNTER ; G. N. MAY ; A. MICHOLLS ; Dr. PORTER PHILLIPS ; Mrs. W. L. SCLATER ; Dr. D. W. SETH-SMITH ; E. G. SIMONDS ; G. WEBSTER.

Mr. JACK VINCENT gave a lecture, illustrated with lantern-slides, on his journeys during the course of the recent British Museum Expedition to Portuguese East Africa, etc. He sent the following account of this for publication :—

I do not propose to submit a detailed description of my wanderings and experiences whilst engaged upon the Portuguese East African Expedition as fully as it was given in my lecture. The reason for this is that the story of the journey as a whole is intended to form part of the introduction to my paper which will be published in 'The Ibis,' and which will be in the nature of a complete list of the birds of northern Mozambique, with field-observations attached. It was not considered desirable for the itinerary to be duplicated in the 'Bulletin' of the B. O. C., and here, as in the lecture itself, time and space do not permit me to describe the birds themselves.

To give a brief summary of the lecture, it was explained that the Colony of Mozambique was one of the few corners of Southern Africa remaining somewhat of a *terra incognita* to the naturalist, and I was fortunate enough to be asked to make the exploration when, in the summer of 1931, it was made possible for the British Museum to carry out a preliminary survey of that country.

The object of the expedition was to map out the avifaunal distribution of the area, with the idea of finding some demarcation between southern and eastern African bird-forms, for which the Zambezi River has long been considered sufficiently accurate; also to find what distributional affinity was in existence between the high forested "island" mountains.

That a very great deal has been added to our knowledge of the habits and distribution of the birds of the area will be proved in the subsequent 'Ibis' paper, and that many forms new to science were obtained has been shown by the descriptions appearing in this and the previous number of the 'Bulletin.'

In view of the fact that a certain amount of collecting had been carried out in former years in the southern portion of the Colony, my investigations were devoted to that half of the territory to the north of the Zambezi. My endeavours were not confined to the mere amassing of birds' skins, for just as much importance was attached to the study of the birds' habits, and copious field-notes were made upon them.

Journeying from England *via* Cape Town, the first call was made at Lourenço Marques, for the purpose of paying my respects to the Portuguese Governor-General and in order to obtain the permits necessary for collecting in the country. From Beira a journey by the Trans-Zambezia Railway was made to Blantyre in Nyasaland, which had been decided upon as a base for operations, both because of its facilities for the dispatch of collections from time to time and its convenient position for journeys to be made in several directions into Portuguese territory. The use of native porters on safari, by which method it was originally intended that the expedition should be carried out, was soon found to be impracticable, and the use of a motor-lorry was obtained. This ultimately proved to be the most satisfactory means of transportation, enabling a great deal more country to be investigated than would otherwise have been possible. The personnel of the expedition consisted of myself and five permanent native servants, all carried on a grossly overloaded Ford truck.

The general idea was to collect north and south of the "island" mountain chain running east by north from Mlanje, in Southern Nyasaland, with its centre on about latitude 15° S., which was at first thought, and later proved, to be the demarcation sought for.

After an exploration of the high plateaux at 6300 ft. on the 10,000 ft. Mlanje Mountain, where some additions were made to the observations of Sir Charles Belcher in 1925, the first trip into Portuguese territory was in the province of Quelimane, south-eastwards to Mocuba and north to the base of the Namuli Mountains, this occupying the months of January and February. The heavy rainfall at this period proved very formidable; nevertheless some interesting birds were secured, notably the rare *Cinnyris shelleyi*, *Anomalospiza imberbis*, the new race *Ploceus aureoflavus pallidiceps*, and the new *Cisticola* described on a later page.

Many species of big game were very common on this trip, as indeed they were throughout the greater portion of Mozambique Colony, and I have made some remarks concerning the extraordinary prevalence of man-eating lions. Some customs of interest found among the natives of the districts traversed have also been noted.

The second portion of the expedition was carried out in the Tete Province of Portuguese East Africa, west of Southern Nyasaland, in order to discover what distributional affinity was in existence between the birds east and west of the Shiré River valley, which marks this section of the Great Rift.

A journey to Dedza was first made, and some collecting was carried out on Dedza Mountain at 7000 ft. Thence the Portuguese frontier was crossed, and camps were held in the open country of the Angoni highlands, a district unique in the central plateau of Portuguese East Africa, which is otherwise clothed in a monotony of *Brachystegia* woodland or open forest. In these plains examples of *Paludipasser* near *locustella* were obtained, belonging to a genus which no doubt is incorrectly named, since, in the field, the bird proves itself to be a true *Ortygospiza*. From this open country the journey was continued down to the Zambezi River at Tete, and at one point on this route a good series of *Ploceus olivaceiceps* was secured, a Weaver which has not been recorded since the original type was collected towards the end of the last century. The roads on this section were unutterably bad, and the gradients on many hills were so steep as to often necessitate a complete unloading of the lorry. Camps in the low country of the Zambezi in the Tete area provided some of the hottest weather experienced during the year, and some unusually severe tsetse-fly belts were met with before a return to Blantyre was made along the route of the main Salisbury–Nyasaland road. At Zobué, on the Kirk Mountains, and close to the British frontier, a profitable camp produced the new species of Honey-Guide (*Indicator appelator*) and two new races, one of *Hyliota australis* and the other of *Fringillaria capensis*, a Bunting hitherto known only from the Union of South Africa. The latter was described by Dr. P. R. Lowe, who was kind enough to name it after me (Bull. B. O. C. lii. 1932, pp. 144–145).

Leaving Blantyre for the third time, a certain amount of collecting was carried out at Lake Chilwa, at Fort Johnston, and on Mangoche Mountain before commencing an extended journey into the enormous stretch of little-known country between Lake Nyasa and the coast. Camps were held at various points, such as Lake Amaramba, Maléma, and Ribaue and, late in May, Mossuril was reached, on the mainland opposite the island capital of Mozambique. There important desiderata were obtained in the form of *Cisticola chiniana* in winter plumage, these birds being found in the short thorn-scrub and stunted baobab country of the coastal belt, and, before proceeding northwards, a visit was paid to the Governor of the Province, on the island which lies some seven miles off the shore.

The next halting-place was in the coastal jungle near Netia, where series of many rare and unknown birds were obtained, including the new races of *Phyllastrephus flavostriatus* and *Erythrocercus livingstonei*. The biggest drawback at this point was the water-supply, for, although it had been a serious question at many other camps, here we were unable to find streams which were not unpleasantly brackish.

Having completed a representation of the birds of this area, we continued northwards to the Lurio River at Namapa, where something in the nature of a "reign of terror" was being experienced by the inhabitants from the depredations of man-eating lions, and again a valuable collection of many new birds was made, including a long series of each of the new *Fringillaria* and *Cisticola* secured earlier in the year in the country to the southward.

There was no possible means of crossing the Lurio River hereabouts, but the configuration of the country between this point and the Tanganyika border proved that it was unnecessary for us to proceed further to the north.

Another long camp was made, in a locality teeming with game, near the mouth of the River Lurio, where the new species *Heliolais castanopsis* was obtained, before returning along the coast over some very inferior tracks, where the lorry more than once met with a considerable amount of grief in traversing flimsily-built bridges.

From the vicinity of Mozambique once more we turned westwards towards the Namuli massif, having determined upon a detailed exploration of those mountains, whose main peak forms the highest mountain in the Colony. During my talk on "A Day in the Life of a Field-collector" last month, at the Combined Dinner of the B. O. C. and the B. O. U., I described our most unpleasant night of adventure with lions, which took place on this journey from the coast to Namuli.

For the assault on the mountain, whither no roads led, the lorry was abandoned, and I was absent for a month with some forty native porters on safari. The exploration was of particular interest in that the mountains of the Namuli massif had never been previously photographed, and there is only one record of their having been investigated by a European, when Mr. Last visited East Africa in 1886. Many observations which I made there were of some geographical importance, and a full account of this section of the Expedition was given in a paper which was read before the Royal Geographical Society in February, and subsequently printed in the ‘Journal’ of that Society, wherein the natives and their customs, as well as the geography of the mountains, were described in detail.

As far as birds were concerned, the Namuli Mountains proved to be of the utmost value, and new species and subspecies recently described show the importance of the collections made there. Some small mammals new to science were also obtained, and data which will be published in ‘The Ibis’ will throw further light upon the interesting forms peculiar to the high rain forest of this “island” mountain, which, like those on Mlanje, are cut off from other mountain races by the intervening savannah country, which is quite unsuited to the movement of true forest-haunting birds.

From Namuli we returned in September once more to Nyasaland, from where the large collection was shipped to England, and I set off on the concluding stages of the expedition. These consisted of a visit to the Nyasaland “Tangadzi Reserve” in the lower Shiré valley, where excessive heat and difficulty in obtaining food and water were again experienced. This was followed by a camp of an entirely different character in the rain and cold at 4000 ft. on Cholo Mountain in Southern Nyasaland, where, among other birds, are numbered series of a new race of *Apalis melanocephala*, of *Chlorophoneus nigrifrons* (the first definite record of this handsome Bush-Shrike for Nyasaland), of the superb *Oriolus chlorocephalus* (hitherto considered rare), and of the almost unknown *Alethe choloensis*. From Cholo we journeyed out to the Portuguese border in the Mlanje division, near the south-eastern corner of Lake Shirwa, where, in spite of the fact that the country was burnt to a cinder by the passage of grass-fires, we obtained some interesting birds such as the new Swift, described in this 'Bulletin,' and the *Lybius zombæ* Barbets, whose recent change in coloration was described last month.

Finally, I would mention the praiseworthy performance of the lorry, which carried us some 4000 miles without a puncture or any mechanical defect whatsoever, thus enabling me to complete a most successful review of the avifauna of Portuguese East Africa, and to secure a collection of some 2200 bird-skins, with full data and field-notes, about 100 spirit-specimens of birds, 50 odd mammals, and eggs, plants, insects, and other miscellaneous oddments.

In conclusion, a tribute must be made here, although I intend to enlarge upon it in my paper, to all government officials and others, both Portuguese and British, from whom I received the utmost kindness and assistance ; also last, but not least, to Ali, my principal native assistant and right-hand man, who accompanied Rear-Admiral Lynes and myself on the "Cisticola tour" of 1930–31, and by his trustworthiness and energy proved the finest of companions throughout the Portuguese East African Expedition.

Dr. G. Carmichael Low exhibited a series of skins of Redshank (*Tringa totanus totanus*) and Dunlin (*Calidris alpina alpina*), from the Orkney Islands, in winter plumage. These specimens had been sent to him by Mr. W. Towers, Honorary Secretary of the Orkney Natural History Society, Stromness, and were obtained there on January 27 and February 23, 1933.

The skins, though not sufficiently numerous to justify any definite conclusions, were of interest in affording some evidence as to which races of Redshank and Dunlin inhabited these islands in winter.

Measurements of the series of Redshank showed that these came well into the limits of *Tringa t. totanus*, and were not the Iceland race *T. t. robusta*, first described by Schiöler in 1919*. The latter differed from the typical race *T. t. totanus* in its summer coloration, but could not be so easily distinguished in winter, unless by its larger size, its greater length of wing (170 mm.), and stouter and longer bill, but overlapping occurred.

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* Dansk Ornith. Foren. Tids. xiii. 1919, p. 211, and *vide*, also, A. C. Jackson, 'British Birds,' xiv. 1921, pp. 280–281.

Dr. Salomonsen, who knew the Iceland Redshank well, and to whom the skins were shown, corroborated the view that they were not that subspecies.

Measurements of Orkney Redshanks (in millimetres).

	Sex.	Wing.	Tail.	Culmen.	Bill from feathers.	Tarsus.
1.	♂	161	68	51	41	46
2.	♀	161	66	53	44	45
3.	♀	146	64	51	42	43
4.	♀	155	68	50	42	46

As regards the Dunlins, the measurements came more into the category of *Calidris alpina alpina* than of *C. a. schinzii*, and they evidently belonged to the former rather than to the latter race. A winter specimen from Suffolk was shown for comparison.

Measurements of Orkney Dunlins (in millimetres).

	Sex.	Wing.	Tail.	Bill from feathers.	Tarsus.
1.	♂	115	59	31	24
2.	♂	112	57	34	24
3.	♀	117	57	36	25
4.	♀	118	60	34	22
5.	♀	115	51	38	24
6.	♀	113	57	32	23
7.	♀	112	53	35	23
			(Suffolk bird.)		
8.	♀	115	58	37	24·5

Dr. Low also showed the skin of a Purple Sandpiper (*Calidris maritima maritima*) which had been sent with the above. He said he could find very few references to the occurrence of this species in Orkney in winter, and, therefore, recorded the fact.

Dr. Carmichael Low further exhibited a series of skins of the race of Dowitcher or Red-breasted Snipe, recently described by Professor Rowan as *Limnodromus griseus hendersoni* *. These consisted of 2 ♂♂ and 1 ♀ in full summer plumage, with a specimen of *Limnodromus griseus scolopaceus* (called by Professor Rowan *Limnodromus scolopaceus*) for comparison. Dr. Low said that members of the Club would remember that Mr. P. F. Bunyard exhibited a clutch of four eggs of the new race, taken on June 5, 1931, at the January meeting of the Club (*antea*, pp. 90–92). Subsequently he (Dr. Low) had written to Professor Rowan, asking if he could send him some skins, and the above exhibit was the result.

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* 'Auk,' xlix. 1932, pp. 14–35, pls. ii. & iii.

Those specially interested in the subject should consult the original paper in the 'Auk' (*loc. cit.*), but, to put the matter briefly, there was no difficulty in distinguishing the new race from the Long-billed Dowitcher or western form, *L. g. scolopaceus*. This, as previously stated, Professor Rowan believed to be sufficiently different to be granted specific rank, though in this all might not agree with him. The differentiation from *L. g. griseus* was, also, according to him, comparatively simple, *L. g. hendersoni* being a long-winged, short-billed, and pale-backed inland race. The most striking point of difference between the two was in the colour of their summer plumage, the former being dark, or even approaching black, on the back, while the latter was pale. The breasts also differed. In *L. g. griseus* the reddish colour was virtually confined to the throat and breast, the belly being white. The spots were also more crowded on the lower throat and breast, while in *L. g. hendersoni* these were generally comparatively scanty and not concentrated on the throat, and in well-marked skins could be seen sparsely distributed all over the breast and belly.

An examination of the skins of *L. g. griseus* in the British Museum bore this out, and showed the distinction very clearly when a series were laid out together and compared with the new race.

If the criteria that held good for the differentiation of a subspecies in England and Europe were applied here (for example, the separation of the northern and southern Dunlin, *Calidris a. alpina* and *C. a. schinzii*, by a difference of summer plumage only, or other similar examples of colour variation), then Professor Rowan's race was a good one, and should stand. It was certainly not an intermediate form between *L. g. griseus* and *L. g. scolopaceus*, as Bent had suggested. Dr. P. R. Lowe, who also examined the skins, agreed in this.

Measurements of three specimens of *Limnodromus griseus hendersoni* (in millimetres).

	Sex.	Wing.	Tail.	Culmen.	Tarsus.
1.	♂	139	64	58	34
2.	♂	142	62	56	35
3.	♀	143	64	65	37

At the request of Professor Rowan, the skins are now to be presented to the British Museum.

Mr. P. F. **Bunyard** exhibited seven plaques of mounted nest-feathers and down of the Barnacle Goose (*Branta leucopsis*), all collected in Spitsbergen, and made the following remarks :—

The first properly authenticated nest-feathers and down of the Barnacle Goose, which I have had an opportunity of examining, were collected by the Oxford University Expedition to Spitsbergen in 1921. The following year Major W. M. Congreve and other collectors visited the same locality and collected further material.

Plaque no. 1 contains nest-feathers and down collected by the Oxford University Expedition, for which I have to thank Mr. H. Massey. This material has now been amply verified by further material from no less than six nests. I have, therefore, no hesitation in making these feathers the type, and describing them as follows :—

Nest-feathers.

Terminal portion pure white; basal or downy portion white, perceptibly tinged with grey.

Length 38–45 mm.

Contour long, narrow, well rounded at terminals to almost straight.

Down.

In bulk dark greyish. Almost pure white immediately round the calamus. Disintegrated and mounted, shows long, conspicuous white tips; the latter are characteristic, and appear to be constant; not all the down shows them, however.

Plaque no. 1 is interesting. One of the feathers at the terminal end is distinctly grey, another is slightly peat-stained pale brownish.

Plaque no. 2 contains small, though typical feathers; the down is also very small for this species, and paler than any of the other specimens exhibited, possibly being from a small bird.

Plaques nos. 3 and 4 contain material mounted in 1922 and 1923; the down has turned pale brownish with age, and the feathers have turned yellowish.

Comparative.

The nest-feathers of the Barnacle Goose are distinct from those of the Brent Goose (*Branta b. bernicla*); the latter are larger, and distinctly self-coloured pale brownish at the terminals, and the feathers with white terminals have the basal or downy portion tinged brown; the white tips to the down are shorter and less conspicuous.

I further exhibit five plaques of nest-feathers and down of the Brent Goose for comparison and, as the Pink-footed Goose (*Anser brachyrhynchus*) also breeds in Spitsbergen, I would add there is no possibility of confusing the nest-feathers and down of this bird with those of the Barnacle and Brent Geese. The nest-feathers of the Pink-footed Goose are much smaller, and the down is also smaller and paler in colour.

As the weights of the eggs of the Barnacle Goose do not appear to have been given in English literature, I give the weights and measurements of Major Congreve's clutch of five:—

Weights.		*Measurements.*	
	mg.		mm.
No. 1	10·610	No. 1	74 × 52·5
,, 2	11·237	,, 2	78 × 53·5
,, 3	10·075	,, 3	76 × 50
,, 4	10·932	,, 4	76 × 51·2
,, 5	12·032	,, 5	78·4 × 52·5
Average, five eggs	10·977	Average, five eggs	76·5 × 51·9

My best thanks are due to Major Congreve, Dr. E. S. Steward, and Mr. C. T. Dalgety for their valuable help in enabling me to make the foregoing descriptions and comparisons.

The Rev. F. C. R. Jourdain made the following remarks with regard to the Great Skua (*Stercorarius s. skua*) in the Shetlands :—

About twenty or thirty years ago the Great Skua was in a very precarious position in the Shetlands, and its numbers had been much reduced. Both birds and eggs were then protected by law, and their increase since that time has been phenomenal. At the present time there are at least 200 pairs in Hermaness, as well as others in different parts of Unst, also in Fetlar, Yell, and on Mainland, while there are also some hundreds of pairs on Foula.

Under strict protection the bird has now become an absolute pest. In some districts Wild Duck have disappeared altogether, the Whimbrel has been reduced to two pairs, Domestic Ducks and even Geese have been destroyed, and there is some evidence that lambs have been killed.

In consequence of this, efforts have been made for some years past to get protection rescinded, and at the February meeting of the County Council, when twenty-four were present, only two voted for the retention of the Order, and all protection has now been removed for the year 1933, except on Hermaness, where it remains in force. It seems a very unscientific method to protect a bird rigidly until it becomes such a menace that all restrictions are removed and the bird can be freely slaughtered and its eggs taken. Could not some system of permits be established by which the numbers of the bird could be kept within reasonable bounds? This belated reduction in numbers can do little to atone for the destruction of weaker species caused by it during past years.

Rear-Admiral Lynes sent the following descriptions of three new subspecies of *Cisticola*[*], the first two resulting from his Central African tour with Mr. Jack Vincent in 1930–31, and the other from his visit with Mr. Willoughby Lowe to Southern Tanganyika Territory in 1931–32. The descriptions are no more than is necessary to introduce the new forms into classification. It is Admiral Lynes's intention to record whatever else is known about the birds later, in an Appendix to his 1930 Cisticola Review.

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[*] [The type in these descriptions, in accordance with Rear-Admiral Lynes's wishes, is set in a similar manner to that of his Cisticola Review, and to his paper in the 'Bulletin,' lii. 1931, pp. 4–13.—Ed.]

Cisticola galactotes luapula, subsp. nov.

Type in the British Museum, reg. no. 1933.3.13.2, an adult female in Summer dress flushed from her nest of three eggs and collected by Rear-Admiral Lynes and Mr. Jack Vincent, 26 Nov. 1930, at the northern edge of Lake Bangweolo, N.E. Rhodesia, 3800 ft.: wing 55; tail 46. The type is representative of a series of nineteen ♂, ♀ adults collected in N.E. Rhodesia just before and during the same breeding-season.

For lack of material the Cisticola Review (see p. 400) left in doubt the position of the S.E. Congo aggregate of *galactotes* sp.; now it clearly must be separated from the typical South African *galactotes*.

DESCRIPTION of the race.

Size. Nearly as large as *galactotes*, ♂ wing 62±2, tail *S*. 51±2: ♀ wing 55±2.

Coloration. *Adults Summer.* **Above,** the head-top plain to lightly mottled, with dark feather-centres, richer and redder than either the rust red-brown of *suahelica* or the subdued ochreous red-brown of *galactotes*, and the back with a very bold pattern of richer colours (*i. e.* of greys with buff touches, and black) than either of those races; **tail-mirrors** (in the male only) always present, though very variable, from moderate and grey to large and striking and pure white.

The same small Summer sexual differences as are specific elsewhere.

Mode of dress, seasonal.

RANGE. The southeastern Congo.

Cisticola robusta awemba, subsp. nov.

Type in the British Museum, reg. no. 1933.3.13.1, an adult female in Summer dress flushed from her nest of two eggs and collected by Rear-Admiral Lynes and Mr. Jack Vincent, 16 Nov. 1930, at Luwingu, Awemba Province of N.E. Rhodesia, 4600 ft. : wing 61 ; tail 45.

The Type is representative of a series of eighteen ♂, ♀ adults collected in the Rhodesian Congo, part of N.E. Rhodesia, just before and during the same breeding-season.

For lack of material the Cisticola Review (see p. 431) left in doubt the position of the "Southeastern race of *robusta*" ; now it is clear.

DESCRIPTION of the race.

Size. As *ambigua*, i. e. larger than *nuchalis**, its next-door neighbour to the northward ; ♂ wing 71±2, tail *S.* 49±2 : ♀ wing 60±2.

Coloration. *Adults Summer.* More or less as in Cisticola Review, but as well described as identical with the smaller *santae* of the Cameroon highlands, except for the lower side being *not* very strongly suffused with rusty buff but only lightly, as in *ambigua*, etc.

Mode of dress, seasonal, but apparently with the very irregular Spring moult characteristic of the typical, Abyssinian, race.

RANGE. The southeastern part of the Congo basin rim, fusing westwards by continuous specific distribution along the Congo–Zambesi waterparting with *angolensis* (birds from southwestern Katanga being *awemba* ≶ *angolensis*).

Cisticola aberrans njombe, subsp. nov.

Type in the British Museum, reg. no. 1933.3.13.~~1~~3, an adult female in (first) Summer dress, flushed from her nest of three eggs and collected by Rear-Admiral Lynes and Mr. Willoughby Lowe, 13 Dec. 1931, nr. Njombe, 6500 ft., in the Ubena highlands of southern Tanganyika Territory : wing 50, tail 50 (new Summer).

The Type is representative of a series of twenty-six ♂, ♀ adults collected in these and the adjoining (Uhehe) highlands during the same breeding-season.

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* Cisticola Review, Corrig., p. 423 ; *for* tail "60±2" *read* "50±2."

DESCRIPTION of the race.

Size. The same as (the small) *C. a. minor* ; ad. ♂ wing 53±2 ; tail *S.* 51±3, *W.* 56±3 : ♀ wing 49±2.

Coloration. *Adults Summer.* Very distinct from all the other races in the **back** being heavily, instead of only faintly mottled, so that in this respect the bird is actually just like *C. lais semifasciata*, which lives on almost the same ground : **tail** always distinctly of spotted fan pattern, in the rule the black spots bold and sharp edged, much more constantly so than in the *nyika* race of *aberrans* and the *semifasciata* race of *lais*.

Mode of dress, seasonal.

The Spring (pre-nuptial) moult in first-year birds is almost typically Cisticoline, that is to say, complete, but exceptionally with a few of the juvenile rectrices retained ; but in older birds it is very imperfect, in the rule not more than about half the head and body, and only the two central rectrices being renewed. There is, however, much individual variation in this. Whatever new (Summer) features there are on the back are, as usual, a little more of mottled than striped pattern, and in the tail a little shorter than those they have replaced (*cf.* the irregularities in the southern forms).

RANGE. The Ubena–Uhehe highlands of southern Tanganyika Territory.

Mr. JACK VINCENT forwarded descriptions of three more new birds, one species and two subspecies, named in the closing stages of the work of identifying the collection brought back from the Portuguese East African Expedition, which he undertook on behalf of the British Museum (Natural History) :—

Micropus achimodzi, sp. nov.

This bird is quite unlike anything hitherto recorded from eastern Africa and, although Swifts are not commonly collected, it is important, and should not be difficult, to secure further specimens of this interesting species, of which a number were seen and which must have been breeding near the type-locality. I am compelled to describe it as a distinct species, and there is only one other with which it may be compared, namely, *Micropus unicolor*, which is a resident breeding species in the Canary Islands, Fernando Po, and Cape Verde group.

Description.—Closely resembles *M. unicolor*, especially *M. u. poensis*, but is, in some respects, slightly paler. The narrow pale margins to the feathers of the head-top and rump are a little more conspicuous, with the result that the sooty back shows more contrast with the rest of the upper parts. The back itself is paler in turn, as there are incipient pale margins to the feathers. Another dissimilarity is found in the wings, which have prominently pale tips to the greater and median wing-coverts. The most conspicuous characteristic of this new species, however, and that which leads me primarily to this separation, is seen in the length and deep swallow-like indentation of the tail, which has long, narrow, and sharply-pointed feathers. The last-named character is especially evident in the two outermost rectrices, which taper gradually from 8 mm. in width over the basal four-fifths of their length and taper sharply to 2 mm. in width over the terminal one-fifth (15 mm.).

Distribution.—Only known from this type-locality in Southern Nyasaland.

Type.—No. 2164, an adult ♂, shot by myself at Palombe, in the Mlanje district of Southern Nyasaland, 15·50° S., 35·40° E., at 2300 ft. altitude, on September 6, 1932. Testes in full breeding condition. Brit. Mus. Reg. no. 1933.3.1.22.

Measurements of Type.—Total length in flesh 168; wing 132·5; tail 75; depth of fork of tail 34·5; tip of outermost rectrices to tip of next 14; culmen from base of skull 10·5; tarsus 8 mm.

Remarks.—Entries in my field note-books, when on the Lichenya Plateau of Mlanje Mountain in December 1931, show that I was continually seeing numbers of a small Swift flying at a great height in company with *Micropus æquatorialis*.

I have little doubt that they must have been representatives of this new species, and it is interesting to note an observation by Sir Charles Belcher in ‘The Ibis,’ Oct. 1925, p. 800, wherein he speaks of having noticed similar birds at the same locality.

The remarks of a Nyanja native of Nyasaland prompted me to use the specific name of *achimodzi*, which in the language of that country means "the first."

Cisticola [emini] lurio, subsp. nov.

Some 260 specimens of Cisticolæ, with eleven species represented, were collected by me in Portuguese East Africa a number which is commensurate with my very great interest in this genus resultant upon the "second Cisticola tour," when I accompanied Rear-Admiral Lynes across Central and West Africa. All my specimens have been identified in collaboration with Admiral Lynes, and the conclusions and determinations, two examples of which are set down here, are those of mutual agreement.

This new *Cisticola*, of which sixteen examples were obtained, proved very difficult to place, but the evidence is so strong that we conclude it is a race of the rock-loving *C. e. emini*. A brief description is appended, together with the enumeration of the type and the addition of some average measurements. A more detailed account of the plumage coloration, seasonal variations, and observations of interest from my field notebooks will appear at a later date, together with further useful data gained from other Cisticolæ collected in Mozambique Colony, in the paper which I hope to be able to publish in 'The Ibis' on the birds of Portuguese East Africa.

Description.—For the purpose of this description my series has been compared with the type of *C. e. teitensis*, which was generously lent by Dr. V. G. L. van Someren. Resembles *teitensis*, is similar in size, and has the same wing-formula—4, 5, 6 P subequal and longest, 2 P less than 10 P. The new race is generally darker in coloration and is very distinctly marked, having the blacker pigment reflected in the dappling on the back and the freckling on sides of chin and throat. The pale eyebrow, although present, is much less distinct. The red of the head-top is considerably darker. The back is colder and more greyish in coloration and, whereas *teitensis* is only slightly dappled, this race is very distinctly mottled by the dark centres to the feathers, markings which are only incipient in occasional examples of the plain-backed *C. e. petrophila.* The underparts are a great deal less rufescent, in fact quite white when compared with *teitensis*; there is no red on the face, the ear-coverts are more greyish, and the rufous wash which is widely diffused on the breast and abdomen in *tietensis* is, in *lurio*, only faintly visible on sides of breast and flanks, and only apparent in any degree on the thighs and crissum.

Distribution.—Only known from the rocky "island" hills of Quelimane and Mozambique Provinces of northern Portuguese East Africa, at Ile, Lua, Inauela, and Mirrote.

Type.—No. 1557, an adult ♂ in non-breeding condition, shot by myself at Mirrote, Mozambique Province, Portuguese East Africa, 13·50° S., 39·35° E., at 1500 ft. altitude, on June 15, 1932. Brit. Mus. Reg. no. 1933.3.1.23.

Co-type.—No. 1558, an adult ♀ shot simultaneously, and apparent pair, with type.

Measurements of Type.—Total length in flesh 153; wing 62; tail 60; bill 13 (16 skull); tarsus 23 mm.

Measurements of Co-type.—Total length in flesh 138; wing 51; tail 53; bill 12 (15 skull); tarsus 21 mm.

Average measurements of 8 ♂♂.—Wing 60±2; tail 60±3; bill 13 (16 skull); tarsus 23 mm.

Average measurements of 4 ♀♀.—Wing 52±1; tail 52±1; bill 12 (15 skull); tarsus 21 mm.

Cisticola chiniana mocuba, subsp. nov.

(A change in nomenclature to replace *C. c. procera.*)

A large and interesting series of *C. chiniana* was brought back from several different localities in northern Mozambique, including the type-locality of *procera*, numbering fifty-three specimens in all.

This series will also be dealt with in the forthcoming paper in 'The Ibis,' and the summer and winter dresses of the new race will be described, but it has proved conclusively that Tete is on the extreme boundary of the range of the new race, that the most convenient type-locality for the birds which range eastwards from Southern Nyasaland to the coast at Mozambique is Mocuba, and that birds from Tete are intermediate between this race and the sandy-coloured *C. c. frater*

(*frater>mocuba*). It is obvious that for the race originally known as *procera* this new type will have to be registered, and the probability that this step would become ultimately necessary was foreshadowed by Rear-Admiral Lynes on p. 258 of the 'Cisticola Review,' Ibis, Supp., October 1930.

Type.—No. 275, an adult ♂ in full breeding condition, shot by myself 10 miles west of Mocuba, Quelimane Province, Portuguese East Africa, 16·46° S., 36·46° E., at 900 ft. altitude, on January 27, 1932. Brit. Mus. Reg. no. 1933.3.1.24.

Co-type.—No. 276, an adult ♀, with three eggs yolking in the ovary, paired with type.

Measurements of Type.—Total length in flesh 146; wing 63; tail 52; bill 12 (16 skull); tarsus 23 mm.

Measurements of Co-type.—Total length in flesh 132; wing 53; tail 42; bill 11 (15 skull); tarsus 22 mm.

Mr. G. L. Bates sent the following descriptions of two new subspecies, together with some remarks about three other groups of African birds:—

Cercomela melanura ultima, subsp. nov.

Description.—Still browner than *C. m. airensis* (Darfur specimens compared), as that is browner than *C. m. lypura* from the borders of the Red Sea; plumage in all parts with a warm rusty tinge; ear-coverts and top of head inclining to be darker brown than the back, etc.

Measurements of eight specimens.—One male, wing 80, tail 60, bill 13·5, tarsus 22 mm.; one, probably a male, wing 77, tail 58 mm.; six females, wing 72–76, tail 54–57, bill 13–14·5, tarsus 21·5–22 mm. (Wing-measurements of Darfur specimens run about 2 mm. more.)

Distribution.—I procured these specimens at the bluffs near Tillia wells, the bluffs of the Dallol Bosso near Filingé, and the bluffs of the Niger near Gao and Burrem.

Type.—In the British Museum, ♀ adult, from the Niger near Gao, August 21, 1932. Collected by G. L. Bates, no. 10778. Brit. Mus. Reg. no. 1932.8.6.9.

Remarks.—The races of *Cercomela m. melanura*, ranging along the southern borders of the desert from Arabia westward, become always browner to the west, greyer to the east. My specimens are from country farther west than the previously known range, and are the brownest. They should, however, have been compared with specimens from the typical locality, Aïr, and the hope of doing so caused me to defer the description of them till now ; but that proved to be impossible. I have the assurance of Rear-Admiral Lynes that his Darfur specimens are like the typical ones.

Thamnolæa cinnamomeiventris cavernicola, subsp. nov.

Description.—Like *T. c. bambaræ*, but the adult male with an extensive patch of pure white on the bend of the wing (as in *T. c. subrufipennis*, and not in *T. c. bambaræ*, which has but little white, and none of the feathers wholly white) ; and also more extensive and lighter rufous on the rump than in *T. c. bambaræ*. Female also with more rufous on the rump.

Measurements.—Four males, wing 112–117, tail 102–105, bill 18–20, tarsus 30 mm. ; five females, wing 104–109, tail 93–98 mm. These dimensions are a little greater than in *T. c. bambaræ*.

Type.—In the British Museum, ♂ adult ; from Fiko, 30 miles east of Mopti, French Sudan, December 10, 1931. Collected by G. L. Bates, no. 11183. Brit. Mus. Reg. no. 1932.8.6.18.

Distribution and Remarks.—These specimens are all from one locality, the cliffs at Fiko, only 300 miles north-east (*i. e.*, down river) from Kulikoro, the locality for *T. c. bambaræ*. Yet the difference is plain between birds from the two localities, and is confirmed by a fresh adult male specimen of *bambaræ* shot at Kulikoro last year, at the opposite time of year from the 1928 specimens ; for it is exactly like those, and unlike the Fiko ones of last year, which really more resemble *subrufipennis* of the Nile country. But this seeming sudden geographical variation may be explained by a closer study of the country. These two localities, Kulikoro and Fiko, though only 300 miles apart, may well be the adjacent ends of two extensive ranges, since the intervening country is all level, with no places suitable for these exclusively cliff-dwelling birds, while there are many cliffs along the upper Niger above Kulikoro and even the upper Senegal to the west, and another very rough and rocky region extending from Fiko eastward to the Hombori Mountains.

Races of DICRURUS ADSIMILIS.

In the first place I wish to advocate the discontinuance of the name *D. a. divaricatus*, as part of a general policy of lessening the cumbersomeness of endless subspecific names by declining to express in nomenclature mere slight differences in general size (not difference in proportions), so as not to have to use a third name always—merely to say, as in this case, that the South African birds average a very little larger.

Next, I have to give my conclusion, after a fresh attack, on the problem of the subspecies *D. a. atactus*, found from Sierra Leone to the Gold Coast, which the original describer made a subspecies of *Dicrurus m. modestus*. Bannerman, in his review in 'The Ibis' (1920, p. 444), transferred this to the *adsimilis* group, and I, in my 'Handbook,' put it back in the *modestus* group. My conclusion now is that both views are undoubtedly right, and that when Gold Coast specimens of *atactus* are used, they are easily seen to resemble most the widely distributed rain-forest form *D. modestus coracinus*, and, when Sierra Leone ones are used, they look a little more like *D. adsimilis* from the Gambia ; yet the difference between Sierra Leone and Gold Coast birds is very slight. There is a very perfect gradation, with scarcely perceptible differences, between the Glossy-backed Drongo of the drier parts of Africa and the Velvet-mantled Drongo of the Main Forest, and this gradation is not seen in any part of the extensive range where these two forms are found almost meeting, except in the extreme west. This curious fact I think I can understand from my knowledge of the country in Cameroon and in Sierra Leone. The Drongo is strictly a bird of trees. The form inhabiting the dry countries finds abundant scattering trees in places in the Semi-arid Belt, where there are many more trees than in the high-grass country, my Savannah Belt, where the grass-fires keep the trees down. There is in Cameroon a space of high-grass country (with no Drongos) between the ranges of *Dicrurus adsimilis* of open country and *D. modestus coracinus* of the forest; they do not quite meet. In Sierra Leone, however, I found patches of forest, always well stocked with Drongos of the form *atactus*, scattered all through the Savannah.

I would unite the *adsimilis* and the *modestus* groups thus:—

Dicrurus adsimilis adsimilis, inhabiting trees in the drier (not desert) parts of the whole Ethiopian Region.

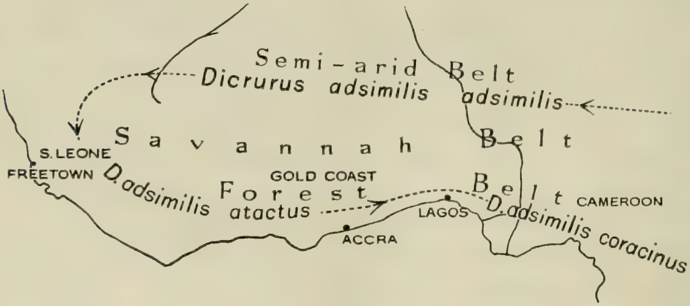
D. adsimilis atactus, inhabiting small patches of forest from Sierra Leone to Gold Coast.

D. adsimilis coracinus, inhabiting the Rain Forest from Lagos to Uganda.

D. adsimilis modestus, Principe Island.

In the united group thus constituted, though there has been an immense change in development from a glossy to a velvety black plumage, there are still important characters—size, proportions, and shape of tail, light quill-lining (still seen, though obscured, in *coracinus*), and whitish feather-edges in the young—which this group has to distinguish it in all its forms from *D. atripennis* and *D. sharpei*.

The singular geographical course of its development may be seen on this map, indicated by dotted line with arrows:—


Semi-arid Belt
Dicrurus adsimilis
adsimilis
Belt
Savannah
S. LEONE
FREETOWN
D. adsimilis
GOLD COAST
Forest
atactus
ACCRA
LAGOS
Belt
CAMEROON
D. adsimilis coracinus

Hypochera chalybeata and Hypochera amauropteryx.

One of the easiest and, as I believe, most reliable characters for distinguishing the species of this difficult genus has been, by some, left out of account; for the faded-looking remiges and rectrices in some forms, contrasting with the deep black of the adjoining plumage, were regarded as being only old and faded feathers, whereas they are really always so, even when fresh and new, and form a colour-scheme in the otherwise perfectly uniform plumage.

Of the four forms put by Sclater, in the 'Systema Avium Æthiopicarum,' in the group called *chalybeata*, two—*chalybeata* and *neumanni*—have all the remiges and rectrices black without much contrast, and two—*amauropteryx* and *camerunensis*—have all but the innermost remiges, and all the rectrices, brownish or faded-looking, even when new, and also conspicuously white-edged, so that most of the wing is in contrast with the proximal part of it, and the tail is in contrast with its coverts. There seem to be no transition forms between these two groups of two forms each, and they should be regarded as two species, *chalybeata* and *amauropteryx*. So we have :—

Hypochera chalybeata chalybeata, ranging from Senegal and Portuguese Guinea east as far, at least, as the upper Niger at Mopti, where I got it recently.

Hypochera chalybeata neumanni, ranging from the Niger at Gao, where I got it recently, eastward to Darfur.

Hypochera amauropteryx amauropteryx, Nyasaland to South Africa.

Hypochera amauropteryx camerunensis, range in the Savannah belt (farther south than *chalybeata*) from the Cameroon highlands eastward.

The two species *chalybeata* and *amauropteryx* are distinguished not only by the plumage, as described above, but by the kind of country which they inhabit. Both forms of *chalybeata* are birds of towns in the semi-arid belt, living with the common little Fire-Finch (*Lagonosticta senegala*), eating broken or small grains of millet, rice, etc., scattered by man. *H. a. camerunensis*, and probably *amauropteryx* also, is a bird of wild grass-land.

Northern Races of STEGANURA PARADISÆA.

More races of the Paradise Whydah can be recognized in West Africa than I have hitherto done. Though the few specimens representing two of them in the British Museum would not by themselves be sufficient ground for making these races, yet they confirm, as far as they go, Grote's races in his review (Ornith. Monatsber. 1923, p. 41), for which he must have depended on other material. The character of the dark colour of the nape-band only holds in a general way, all West African birds having it darker than East African ones. That of the dimensions and shape of the two long tail-feathers holds remarkably well, thus :—

S. paradisœa paradisœa, of East Africa. Tail-feathers long and wide and tapering.

*S. paradisœa orientalis**, of North-east Africa, and west to Lake Chad. Tail-feathers short and wide, not often much over 200 mm. long.

S. paradisœa aucupum, of Africa west of Lake Chad, near the same latitude, right to Cape Verde. (In this range the species is common.) Tail-feathers short and wide, as in *orientalis*, but not quite so wide, and sometimes a little longer. Five breeding male specimens collected recently on the upper Niger have tails 225–250 mm. long. Distinguished best from *orientalis* by the dark nape-band.

S. paradisœa togoensis, found in the strip of West Africa farther south than the range of *aucupum*, or the Savannah Belt (where the species is rare). Tail-feathers long (to 310 mm. and not over 25 mm. wide). Belonging to this are only one Sierra Leone and one Ivory Coast specimen, and an old mounted one, labelled "R. Gambia," in the British Museum.

S. paradisœa interjecta, found in the Savannah Belt from the Benue River eastward. Tail-feathers both long and wide, over 25 mm. wide. Two breeding male specimens in the British Museum, one from Tibati in Cameroon, one from Benue Province.

In general, in these five races, narrower tail-feathers, as well as darker nape-band, are found in the west, wider tail-feathers and lighter nape in the east ; and shorter tails are found along the northern strip of the long east-and-west range of the species, longer tails farther south, in better watered country.

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* The name *nilotica* in my 'Handbook' is a synonym.

Mr. J. Delacour sent the following description of a new subspecies of Weaver-Bird :—

Euplectes axillaris batesi, subsp. nov.

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Description.—Nearest to *Euplectes* (*Urobrachya*) *axillaris mechowi* (Cabanis) from Northern Angola, but differs in the more reddish-orange colour of its lesser wing-coverts.

Measurements.—Wing 86 ; tail 56 ; culmen 16 ; tarsus 21 mm.

Distribution.—River Niger, between Tillabery and Ansongo, July 25 to August 4, 1931.

Type, ♂ (eclipse), in the British Museum ; River Niger, between Tillabery and Ansongo, July 30, 1931, no. 10736. Collected by Mr. G. L. Bates. Brit. Mus. Reg. no. 1932.8.6.8.

Eight specimens examined :—2 ♂♂ (adults), wing 86, 87 ; 3 ♂♂ (juv.), wing 79, 82, 84 ; 3 ♀♀, wing 71, 72, 74 mm.

Remarks.—The discovery of a Weaver-Bird of this species so far north in West Africa is remarkable. It was only found along the river, and in a restricted area. The nearest locality for a form of *E. axillaris* is Tang, in Northern Cameroon, where a few specimens were also collected by Mr. Bates in October 1921. The latter belong, apparently, to the form *E. a. mechowi*, described from Northern Angola, and also found in Northern Rhodesia.

One specimen from Melange, Angola, in the British Museum, has a wing of 90 and a culmen of 17 mm. The two males from Cameroon have a wing of 87, 86 ; culmen 19, 17 mm. Seven males from Rhodesia measure : wing 88, 94, 88, 101, 97, 92, and 93 ; culmen 18, 18, 18, 19, 18, 18, 17 mm.

Differences in dimensions, as well as in the deepness of the chestnut on the median and greater wing-coverts, seem to occur in *E. a. mechowi*, but the series at hand does not permit further conclusion, and the distribution of this subspecies is not yet well known.

Dr. Finn Salomonsen forwarded the following description of a new Sunbird:—

Neodrepanis hypoxantha, sp. nov.

Description.—Male: distinguished from *Neodrepanis coruscans* Sharpe in having the under-parts bright shining canary-yellow. In the latter the borders of the feathers are yellow, but the whole basal part is greyish-black, giving the under-parts an olive appearance mottled with greyish. In *N. hypoxantha* the whole of the feathers are bright yellow. The colours of the upper-parts are similar to *N. coruscans.* Bill and feet horn-brown, in *N. coruscans* black. (Both examined in dry skin only.)

Female: shining yellow underneath, as in male, only slightly paler. In *N. coruscans* the under-parts are greyish-green, with yellowish flanks. Bill and feet brown, as in male (black in *coruscans*).

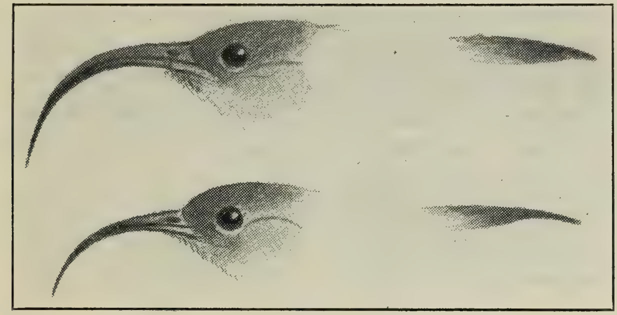
Measurements and Structure.—Size of wing, tarsus, and tail as in *coruscans*, but bill much shorter and finer and not so curved. Exposed culmen 18–21 mm., against 24–27 mm. in *coruscans* (measured in a straight line). Unfortunately the tip of the bill in both specimens of *hypoxantha* is broken, but the smaller proportions are, any way, easily recognized. The emargination of the first primary is much more pronounced in *hypoxantha* than in *coruscans*, the tip being very narrow and measuring from the notch 7 mm.; in *coruscans* the incision is 3–5 mm. long. The emargination of the first primary in *Neodrepanis* is only to be found in the adult males.

Distribution.—The forests east of Tananarive, in eastern Madagascar, apparently confined to this region.

Type.—♂ adult; "East of Antananarivo" (now Tananarive), July 1881; coll. Cowan. Brit. Mus. Reg. no. 1882.2.27.20.

Remarks.—Only the two specimens, the male and female described above, are known. The male is adult and in winter plumage, but on the upper-parts some few feathers of the breeding dress have appeared; also the males of *N. coruscans* moult in July–August. The female (co-type) is probably adult too, but there is little, if any, difference between adult female and young birds in *Neodrepanis.* The new species must be a very rare bird, as only the two type-specimens are known. The great Expédition Franco-Anglo-Americaine, which has recently collected a large series of *Neodrepanis coruscans* on the entire east coast, from Vondrozo in the south to Andapa in the north, failed to meet with *N. hypoxantha.*

When Sharpe (P. Z. S. 1875, p. 76) and Hartlaub (Vög. Madag. 1877, p. 94) remarked that the first primary in *Neodrepanis* is rudimentary, as in other Nectariniidæ, the statement was incorrect, as pointed out by Milne-Edwards and Grandidier (Hist. Phys. &c. de Madag. xii. 1879, p. 288), but it is also incorrect when the latter authors say that the first primary is absent in *Neodrepanis,* thus having only nine primaries. I have examined many skins, which all had ten primaries, and I have examined a specimen in spirits with Dr. P. R. Lowe—dissected by him—which obviously had ten primaries. In striking contrast, therefore, to all other genera of Sunbirds, the peculiar *Neodrepanis* has a long first primary, nearly reaching the tip of the wing, whereas in all other Nectariniidæ it is minute. Also the strong emargination of the first primary is unique among Sunbirds.



Bill and tip of first primary of *Neodrepanis coruscans* (above) and *N. hypoxantha* (below).

The figure shows the bill and the tip of the first primary in the two species of *Neodrepanis.*

Dr. W. S. Stachanow, of Moscow University, sent the following description of a new subspecies of *Riparia* :—

Riparia rupestris centralasica, subsp. nov.

Description.—Differs from the typical form, *R. r. rupestris*, in the paler colouring—a sandy shade—of the head, back, wing-coverts, and specially of the tail-coverts, the upper of the latter being without any pale edges. The primaries are considerably greyer than those of *R. r. rupestris*, which are nearly black.

From the Russian Turkestan form it differs again in the paler colour of the head, back, and wing-coverts, and in having no brown, which is a characteristic of the former.

Measurements.—Wing 129–143 mm., in comparison with the wing of Turkestan birds, which measure 132–135 mm., and with the typical form, which measures 118–136 mm.

Distribution.—The mountain group of the Alashan, the East Nanshan, and the Russian range (Russky) in Eastern Turkestan.

Type.—♂ adult; in Zool. Mus. Russ. Acad. Sci., May 5, 1908; Yawata, Alashan, Central Asia. Collected by P. Kozlow.

Measurements of Type.—Wing 129; tail 65 mm.

Remarks.—105 specimens examined.

Mr. David Bannerman sent the following description of a new race of Speckled Tinker-Bird from Angola, which he proposed to name :—

Pogoniulus scolopaceus angolensis, subsp. nov.

Description.—Differs from all known races of *Pogoniulus scolopaceus* in having the tips to all the feathers of the upper-parts of a decidedly brighter and more greenish-yellow (not dull olive-yellow, as in *aloysii*, or golden yellow, as in the typical specimens). The yellow fringes are very pronounced on the lesser coverts and the whole of the crown. The under-parts are more uniform, the squamations being less pronounced than in *P. s. flavisquamatus*.

Measurements.—The size appears to be large, a male having a wing of 58 and a female of 62 mm.

Distribution.—Northern Angola.

Type.—♂, Ndala Tando, N. Angola, October 10, 1908. Dr. W. J. Ansorge coll. Brit. Mus. Reg. no. 1910.5.6.395.

Mr. G. M. MATHEWS sent the following description of a new subspecies of Shy Mollymawk :—

Diomedella cauta peruvia, subsp. nov.

Description.—Differs from *D. c. cauta* Gould in having the culminicorn almost touching the feathers of the forehead, and the latericorn dark. The cheeks, side of the neck, and mantle grey, not white.

Type.—In the British Museum; West Peru. Brit. Mus. Reg. no. 1913.11.10.15.

Remarks.—This bird was considered by some workers to be *platei* Reichenow = *bulleri*; by others *desolationis* Salvadori, which is a *chrysostoma* bird.

Capt. CLAUDE H. B. GRANT and Mr. C. W. MACKWORTH-PRAED sent the following four notes :—

1. The Correct Type-locality of the Red-footed Booby, SULA SULA SULA (Linnæus).

Mathews, in his Bds. Australia, iv. 1915, p. 216, has designated Ascension Island as the type-locality of the Red-footed Booby (*Sula sula sula*). This is followed by Sclater, Syst. Av. Æthiop. pt. i. 1924, p. 19, who, in a footnote, states that this Booby does not seem to have been noticed in Ascension since it was recorded by Osbeck, Voy. East Indies and Suratte (English translation), 1752, p. 89. Linnæus's type-locality for his *Pelecanus sula* is " in Pelago Indico " (Syst. Nat. ed. xii. i. 1766, p. 218), which we are of opinion refers to Indian Seas, *i. e.*, the seas of the West Indies. Linnæus gives references in the following order :—

1756. P. Brown, Nat. Hist. Jamaica, 1756, p. 481, who gives Islands of America as the locality, and in his work refers to Catesby, Hist. Carol. i. p. 87, pl. 87, and to Sloane, Nat. Hist. Jamaica, but gives no reference to the page or plate.

1707. Sloane, Nat. Hist. Jamaica, ii. 1707, p. 322, pl. 271, fig. 2, who gives West Indies as locality.

1713. Ray, 1713, p. 191, copies Sloane, and gives Islands of Caribbean Sea, Nieves, and Redondo Islands as the locality.

1760. Brisson, Orn. vi. 1760, p. 495, gives coasts of Africa and America as the locality, and refers to Linnæus, ed. x. 1758, Gen. 66, Sp. 5, and Sloane, Nat. Hist. Jamaica, 1707, p. 322, pl. 271, fig. 2.

1731. Catesby, Hist. Carol. 1731, p. 87, pl. 87, gives Bahamas as the locality, and gives reference to Sloane.

But it must be noted that all Linnæus's references under his *P. sula* refer without exception to the Brown Booby, *Sula leucogaster* Boddaert, and, therefore, none of the localities given in those works can be used for the Red-footed Booby. Linnæus, under his *P. piscator* (ed. xii. 1766, p. 217), gives references in the following order, to :—

1759. Amoen. Acad. iv. 1759, p. 239, but no locality is given.

1752. Osbeck, Voy. E. Ind. and Suratte (English translation), i. 1752, p. 127, gives locality near Java, and in ii. p. 89, gives the locality as Ascension Island.

1760. Brisson, vi. 1760, p. 501, who gives the locality as coasts of Africa and America.

Under his *P. fiber* (ed. xii. 1766, p. 218) Linnæus gives references to :—

1760. Brisson, vi. 1760, p. 499, pl. 43, fig. 1, who gives the locality as coasts of Africa and America.

1707. Sloane, Hist. Nat. Jamaica, i. 1707, p. 31, pl. 6, fig. 1, who gives the first locality as Island of Barbados.

1713. Ray, 1713, p. 191, no. 5, who copies Sloane, and gives locality as Islands of Nieves and Redondo.

1725. Feuillée, Obs. Phys. 1725, p. 98, who gives the locality as Islands of America.

Mathews founded his type-locality on vol. ii. p. 89 of Osbeck, whose description is undoubtedly that of the Red-footed Booby, but appears to have overlooked the references to Sloane given in Linnæus's Amoen. Acad. iv. 1759, p. 239. The first reference to Sloane in this work is under "*a*," but no page or plate is quoted, but under "*b*" he quotes p. 31, pl. 6, fig. 1. This figure is that of a young Red-footed Booby, and is founded on the water-colour drawing in Drawings of Birds, Brit. Mus. Bibl. Sloan. 5265, plut. xliv. A. This excellent water-colour drawing, which is numbered No. 71, clearly shows a young Red-footed Booby, with reddish legs and feet, and hoary outer-webs to secondaries and greater wing-coverts, and has, in the artist's handwriting : "A sea fowl by the seamen called A Booby about the bigness of A Muscovy Duck. July the 4th, 1674. Running past the West Indian Islands." On the same page of this album of original drawings is to be found drawing no. 72, which is an excellent water-colour of the Brown Booby by the same artist, and who has written below : "Another sort of sea fowl in the West Indies, July the 7th, 1674," and Sloane has written on this drawing ; "Anseri Bassano congener fuscus avis."

We have to thank Mr. N. B. Kinnear for so kindly drawing our attention to this album of drawings. On p. 31 of Sloane's work we read : " We first met them when we approached the Island of Barbados, and had them afterwards in great numbers all along amongst the Caribe Isles, they are very numerous on Redondo a small island not far from Nieves, and there they breed." There is little doubt that the later descriptions of the Red-footed Booby are founded on Sloane, though the earliest reference to this bird, that we can trace, is to be found in Dutertre, Hist. Gen. Ant. ii. 1667, p. 275, who records his " white as a swan " Booby from the Antilles. We are of opinion that strict priority demands that Linnæus's Amoen. Acad. and the references therein must be considered before Osbeck's work, and we therefore designate the type-locality of the Red-footed Booby (*Sula sula sula*) as Island of Barbados, West Indies.

2. The subspecific Status of PELECANUS ROSEUS Gmelin, and the correct Type-locality of PELECANUS ONOCROTALUS Linnæus.

In the Syst. Av. Æthiop. pt. i. 1924, p. 23, Sclater has kept *Pelecanus onocrotalus* and *Pelecanus roseus* as species. Hartert (Vög. pal. Fauna, ii. 1920, pp. 1402 & 1404), Stuart Baker (Faun. Brit. India, Bds., ed. 2, vi. 1929, pp. 271–272), and Bannerman (Bds. Trop. West Africa, i. 1930, pp. 49–51) have made *P. roseus* a race of *P. onocrotalus*. As none of these authors agree definitely as to the status and range of these Pelicans, and as the material at our disposal does not help to clearly define their breeding and winter range, and as also there is a possibility that both breed in the same area, we have decided to treat them as separate species.

We are of opinion that it will be found that the breeding range of *P. onocrotalus* is more to the north of that of *P. roseus*, but that the former migrates south in the northern winter season. There is no doubt that considerable confusion has occurred in the records of these Pelicans, as they are indistinguishable in the field. Domaniewski, Ann. Zool. Mus. vii. 1928, p. 69, whose table of measurements is interesting, quotes Menzbier (p. 71) for the difference in shape of the forehead, but does not say definitely that he rejects this character. This character is given by Ogilvie-Grant in Cat. Bds. Brit. Mus. xxvi. 1898, p. 464, and would appear to be the only character by which these two Pelicans can be distinguished one from the other, if they really are separable, and are not one and the same bird. It is to be remarked that, although the type-locality of *P. roseus* is Manila, Philippine Islands, no mention is made of it in either McGregor's Man. Phil. Bds. 1909, or Hachisuka's Bds. Phil. Is. 1932.

In making the above decision we have examined more closely the question of the type-locality of *Pelecanus onocrotalus*, which is given by Linnæus, Syst. Nat. ed. x. 1758, p. 132, as Africa, Asia, b. in America. Most writers, including Hartert, Vög. pal. Fauna, ii. p. 1402, and Sclater, Syst. Av. Æthiop. i. 1924, p. 23, give the type-locality as Africa, thus following priority in the order in which Linnæus designated his range of this bird. In 'The Ibis,' 1915, p. 75, Claude Grant designated White Nile District, and this has been followed by some authors.

Under Linnæus's original description in the 10th ed. 1758, he gives references to, firstly, his own Syst. Nat. ed. ix. 1756, p. 23, where no locality or any references are given. His second reference is to Olearius, Gott. Kunst. Kamm. 1674, p. 21, pl. 13, fig. 1, and, on referring to this work, we find, on p. 21, not only a description of this Pelican, but the locality where he obtained it, as follows:—" Tabula. xiii. Num. 1. It is a head of a 'pouched goose,' which we have shot on the shore of the

Caspian Sea, and they were found 50 to 100 together," and further on states that this Pelican was known to Pliny and Aldrovandus as *onocrotalus*. It is possible that Linnæus based his *Pelecanus onocrotalus* on Olearius, and therefore the correct type-locality should be Caspian Sea, Russian Asia. Hartert, Vög. pal. Fauna, ii. 1920, p. 1403, gives this locality as one of its breeding haunts.

3. On the Relationship, Status, and Range of EGRETTA GARZETTA, DEMIGRETTA GULARIS, D. SCHISTACEA, D. ASHA, and D. DIMORPHA, a new Subspecies, and the correct Type-locality of EGRETTA GARZETTA.

The Little Egret and the white and coloured dimorphic "Reef" Herons have always presented a problem. It has always been considered that the "Reef" Herons are quite distinct from the Little Egret, and have been placed in a separate genus, but considerable confusion has arisen in the past between *D. gularis*, *schistacea*, *asha*, and *dimorpha*, not only with the coloured phases, but with the white phase, and the latter has been confused with *E. garzetta*. The naming of the wholly white birds appeared to rest entirely on whether they were found singly or in parties ; if singly, the bird must be a *Demigretta*, and if in parties it must be an *Egretta*, or, where this was not known, it was named by merely comparing it with a white bird that had already been named by someone else, *Egretta* or *Demigretta*, whichever was on the label.

In the Cat. Bds. Brit. Mus. xxvi. 1898, p. 114, Sharpe places *Lepterodas schistacea* under *Lepterodas gularis*, and does not agree that the Red Sea bird is larger. Hartert, Vög. pal. Fauna, ii. 1920, p. 1243, is of opinion that *D. schistacea* is a race of *gularis*. Sclater, Syst. Av. Æthiop. i. 1924, pp. 26–27, has kept *D. gularis*, *D. schistacea*, and *D. dimorpha* as separate species. Vaughan, Ibis, 1929, p. 598, considers that the Madagascan and East African birds are all *D. schistacea*. Bannerman, Bds. Trop. West Africa, i. 1930, p. 70, has overcome the problem by stating that there is no white phase of *D. gularis*, but, unfortunately, overlooked a parti-coloured bird from Senegal in the British Museum collection (Brit. Mus. Reg. no. 1892.4.2.217). Delacour, Ibis, 1932, p. 288, overcomes the problem in an entirely different way, and states that *E. garzetta* does not occur in Madagascar.

It is thus difficult to find two authors who agree. There is clearly something wrong when no definite character exists between the white phase of the "Reef" Herons and *E. garzetta*, and there is no doubt that too much attention has been given to the coloured bird and too little attention paid to the white phase, that is to say, the coloured bird has been considered first. Vaughan, Ibis, 1929, p. 597, gets very near the truth when he says "to a pure white form which is very like the preceding species," i. e., *E. garzetta*; and Delacour gets nearer when he says, on p. 12, L'Ois. Rev. Franç. d'Orn. ii. no. 1, 1932, and Ibis, 1932, p. 288, "the plumes are exactly the same as *E. garzetta*, and the only difference between birds in the white phase and *E. garzetta* is that the Madagascan birds are larger." M. Delacour has informed me that in Madagascar the white and the coloured birds are found together in the same flocks, both on the coast and inland, that their habits are those of *E. garzetta*, that they breed together in the same colonies, and that both white and coloured nestlings have been found in the same nest. This is definite proof that the Madagascan bird is not a "Reef" Heron.

Dr. P. R. Lowe, at our request, has very kindly examined the feathering of these birds, and the following are his observations:—

"In an attempt to discover differentiating characters which might serve to substantiate the specific differences said to exist among certain Herons, I have—at Captain Claude Grant's request—examined the plumage of some of these so-called species microscopically. I have paid particular attention to the Egret-like plumes of the dorsal region because, if diversity in structure does occur, it is more likely to occur in regions of the plumage where there is obvious specialization than elsewhere.

"With this object in view, I have compared as carefully as I could the structure and relative proportions of the barbs, barbules, and barbicels on the dorsal plumes of birds labelled:—

"(1) *Egretta garzetta* (Europe) and *Demigretta dimorpha* (Madagascar), these being wholly white;

"(2) *Demigretta gularis* (West Africa) and *Demigretta dimorpha* (Madagascar), these being blue; and

"(3) Forms represented in (1) and (2) with one another;

"and the only difference which I have been able to detect is that in the blue forms there is a very conspicuous amount of pigment which make the barbules a beautiful microscopical object, while in the white forms there is none.

"In all other respects I find the structure and the relative proportions of the several parts of the barbs and barbules indistinguishable."

In our opinion there is not the slightest doubt that all the African "Reef" Herons, with the exception of *schistacea* (which we will deal with further on), are really *E. garzetta*, or subspecies of *E. garzetta*. We have examined and measured every specimen in the British Museum collection and, after very careful consideration, we have come to the following conclusions as regards the range and races of *Egretta garzetta*:—

EGRETTA GARZETTA GARZETTA (Linnæus). The Little Egret.

Ardea garzetta Linnæus, Syst. Nat. ed. xii. i. 1766, p. 237: Malalbergo, N.E. Italy.

Herodias procerula and *Herodias cineracea* Cabanis, in Van Decken's Reis. Ost. Afr. 1869, pp. 48–49: East Africa, are synonyms.

A wholly white bird, having five colour-phases in East Africa only and, perhaps, rarely in Europe, *i. e.*, a wholly white (the normal), a pale lavender-grey, a sooty grey, a dark slaty grey, and a blackish state, with every form of parti-coloration, especially between the wholly white, the pale lavender-grey, and the slaty grey.

Range.—Southern Europe, east to Japan and the Philippines, northern, eastern, and southern Africa, Islands of Zanzibar and Pemba.

Measurements.—

	♂.	♀.
Wing	273–289 mm.	257–281 mm.
Culmen	83– 92 ,,	81– 87 ,,
Tarsus	101–110 ,,	97–105 ,,
Depth of bill behind nasal orifice	13– 14 ,,	13– 14 ,,

Twelve males and six females measured.

Witherby, Handb. Brit. Bds. ii. 1921, p. 207, gives :—

	♂.	♀.
Wing........................	260–295 mm.	240–270 mm.
Culmen	85– 95 „	78– 90 „
Tarsus	100–110 „	—

Two eastern races, *E. g. nigripes*, New Guinea, Moluccas to Java, and *E. g. immaculata*, Papuan Islands and Australia, are recognized.

EGRETTA GARZETTA GULARIS (Bosc). West African Little Egret.

Ardea gularis Bosc, Actes Soc. d'Hist. Nat. Paris, i. 1792, p. 4, pl. 2 : Senegal River.

A wholly white bird, similar to *E. garzetta garzetta*, but being on the average smaller, and having very similar colour-phases.

Range.—Throughout West Africa, Islands of Annobon, Fernando Po, Principe, and Cape Verde.

Measurements.—

	♂.	♀.
Wing........................	259–278 mm.	246–265 mm.
Culmen	84– 94 „	79– 86 „
Tarsus	89–103 „	80–102 „
Depth of bill behind nasal orifice..	13– 14 „	13– 14 „

Six males and six females measured.

EGRETTA GARZETTA DIMORPHA Hartert. Madagascar Little Egret.

Egretta dimorpha Hartert, Bull. B. O. C. xxxv. 1914, p. 14 : West Madagascar.

A wholly white bird, similar to *E. garzetta garzetta*, but being on the average larger, and having similar colour-phases.

Range.—Madagascar, Tanganyika Territory (Dar-es-Salaam).

Measurements.—

	♂.	♀.
Wing........................	290–304 mm.	263–290 mm.
Culmen	94– 98·5 „	86– 94 „
Tarsus	106–117 „	96–114 „
Depth of bill behind nasal orifice..	13– 15 „	13– 15 „

Nine males and ten females measured.

The measurements of the above three forms include only the sexed specimens examined, as it is clear that there is a distinct difference in size between males and females, and it is, therefore, necessary to compare the sexes, and not an average of the measurements of a number of unsexed skins.

Egretta garzetta assumptionis, subsp. nov. Assumption Island Little Egret.

Description.—Very similar to *E. garzetta dimorpha* Hartert, but having a longer bill, 92–105 mm. Bill black, as in the *E. g. garzetta* group. Colour-phases pure white, through grey to dark slate-grey. Seasonal changes as in the *E. g. garzetta* group.

Soft parts.—Bill black, or black with base of lower mandible yellow; legs black, toes greenish-yellow.

Measurements.—Wing 285; culmen 96; tarsus 103 mm.

Distribution.—Assumption and Aldabra Islands, north of Madagascar.

Type.—♂ adult (in wholly white non-breeding dress). Assumption Island, north of Madagascar, Indian Ocean. Collected by M. J. Nicoll (Earl of Crawford's R.Y.S. 'Valhalla') on March 13, 1906. Brit. Mus. Reg. no. 1906.12.21.102.

Nine specimens examined, including seven from Aldabra Island, only two male and one female of which are sexed.

Measurements of these nine birds.—

Wing	265–293 mm.
Culmen	92–105 ,,
Tarsus	95–108 ,,
Depth of bill behind nasal orifice ..	15– 16 ,,

Under *D. sacra*, Nicoll (Ibis, 1906, p. 696) says of this bird on Assumption Island :—" I saw several of these beautiful Reef-Herons. They were quite tame, but I do not know whether they breed there," and on p. 704 :—" This Heron is extremely abundant on Aldabra, and is very tame. As these Herons are very partial to the shallow wells and pools of fresh water in the coral near the Settlement, all these reservoirs have to be covered with dead bushes to prevent the birds from fouling them."

In Madagascar we know that the white and coloured phases are found in the same flock and have the same habits, and there is no doubt that typical *E. g. garzetta* is very partial to the seaboard, and is sometimes seen singly.

Bannerman, Bds. Trop. West Africa, i. 1930, pp. 68 & 70, gives very similar habits for both the Little Egret and the "Reef" Heron, and states that the latter nests in colonies, which is, of course, typical of the Little Egret. There is an extraordinary paucity of records from Africa of the habits of these Egrets.

Perhaps we have here further examples of the theory expressed by W. P. Pycraft, Hist. Bds. 1910, pp. 299–300, and that the coloured form of the Little Egret has died out all over its range, with the exception of East and West Africa and Madagascar, and, perhaps, very rarely occurring where only the wholly white bird now exists, if we accept the record of a blue-grey example having plumes of head lighter grey, white in tail and on head, bill black, shot by Mr. Hodek in Bulgaria on May 5, 1869 (Verh. Zool. Bot. Gesell. Wien, 1869, p. 47).

Linnæus, Syst. Nat. ed. xii. i. 1766, p. 237, gives the locality of his *Ardea garzetta* as "in oriente." Mathews, List. Bds Australia, 1913, p. 81, designates Europe, but no attempt appears to have been made to fix a more definite type-locality. The revision of the *garzetta* group which we have now made demands a more exact locality for *E. g. garzetta*.

Linnæus gives the following references :—

Brisson, Orn. v. 1760, p. 431, who gives locality as found on the sea-coast.

Aldrovandus, Orn. iii. 1637, p. 389, pl. 391, whose descriptions and place-names appear very mixed.

Willughby, Orn. 1676, p. 206, who gives Valley of Malalbergo. See also Willughby, Orn. 1678, p. 280.

Therefore, in order of priority we must designate the type-locality of *Egretta garzetta garzetta* (Linnæus) as Malalbergo, R. Reno, south of Ferrara, N.E. Italy.

Demigretta schistacea (Ehrenberg) is quite a distinct bird, and should never really have been confused with the birds that are now the Little Egret group, as it has a heavier bill, which is coloured yellow. Of this species, *Demigretta asha* Sykes, P. Z. S. 1832, p. 157 : Dukhum, is a synonym, as specimens from the Red Sea agree perfectly with those from the Persian Gulf and India. Although this was pointed out by Reichenow, Vög. Afr. i. 1900–1, p. 387, no one appears to have noticed it, and we may remark that it was not until after we had come to this decision that we found Reichenow had, thirty years ago, made *asha* a synonym of *schistacea*.

There is, therefore, only one species :—

Demigretta schistacea (Ehrenberg).

Ardea (*Lepterodas*) *schistacea* Ehrenberg, in Hemprich & Ehrenberg, Symb. Phys., Aves, fol. 1, pl. 6, 1823 : El Tor, Sinai Peninsula, of which

Ardea asha Sykes, P. Z. S. 1832, p. 157 : Dukhum, is a synonym.

Range.—Banks of the Nile, coasts of the Red Sea, Somaliland, Arabia, Persian Gulf, east to Ceylon, and the Laccadives.

Measurements.—

	♂.	♀.
Wing	282–298 mm.	265–289 mm.
Culmen	94–103 ,,	88– 98 ,,
Tarsus	99–119 ,,	89–112 ,,
Depth of bill behind nasal orifice	15– 16 ,,	14– 16 ,,

Three males and five females from Red Sea and Gulf of Aden, and five males and four females from Persian Gulf measured.

So far as we know, this bird is only found on the seaboard and up the Nile, and may, therefore, be called a "Reef" Heron, but that it is solitary is extremely doubtful, as Stuart Baker, Fauna Brit. Ind., Bds., ed. 2, vi. 1929, p. 353, states that there is a large breeding colony in the centre of Karachi City.

We are of opinion that the blue-grey example of *E. g. garzetta* recorded by A. L. Butler, Ibis, 1922, p. 220, is an example of *Demigretta schistacea*, as he gives the bill as being greenish-yellow and legs olive-green. The yellow bill is one of the characters of *D. schistacea*, as opposed to the black or dark bill of the *garzetta* group, and *D. schistacea* is found on the Nile.

The unsexed specimen from Suakim (Brit. Mus. Reg. no. 1893.9.20.30) agrees in measurements and colour-pattern with the figure of the coloured bird on pl. 6 in Ehrenberg, Symb.

Phys., Aves, 1823. The measurements of this specimen are:—Wing 300; culmen 103; tarsus 121; depth of bill behind nasal orifice 16 mm.

4. On the Races of *Scopus u. umbretta* Gmelin, and the correct Reference to the Type-locality.

In 'The Ibis,' 1931, p. 302, Bates has described a new race of this bird under the name *Scopus umbretta minor*, and gives the range from Southern Nigeria to Sierra Leone, with wing-measurement from 250–266 mm., and is of opinion that the larger bird is the typical form and, as regards West Africa, gives the range from Northern Nigeria to Senegal, with wing-measurement from 280–322 mm., but did not, as would have appeared necessary, review the birds of the whole of Africa. He made no decision on the status of *S. u. bannermani*, but merely cast doubt on its validity. As a result we find that recent writers are not consistent; for instance, Delacour, L'Ois. Rev. Franç. d'Orn. ii. 1932, no. 1, p. 16, and Ibis, 1932, p. 289, uses *S. u. bannermani*, whereas Chapin, "Bds. Belg. Congo," Bull. Am. Mus. Nat. Hist. lxv. 1932, p. 449, uses *S. u. umbretta*.

As this state of affairs is very unsatisfactory, we have examined and measured all the birds in the British Museum collection and, after careful consideration, we have come to the conclusion that three races can be recognized, as follows:—

SCOPUS UMBRETTA UMBRETTA Gmelin.

Scopus umbretta Gmelin, Syst. Nat. i. pt. 2, 1789, p. 618: Senegal.

Size smaller. Wing 279–296 mm.

Six specimens measured.

Range.—Senegal, Gambia, and Portuguese Guinea.

SCOPUS UMBRETTA BANNERMANI C. Grant.

Scopus umbretta bannermani Claude Grant, Bull. B. O. C. xxxv. 1914, p. 27: Mt. Leganisho, Kenya Colony.

Size large. Wing 297–334 mm.

Seventy-three specimens measured, of which only four are under 300 mm., two being females, and one is unsexed.

Range.—Interior of Sierra Leone to Northern Nigeria and the Cameroons, the Congo, Portuguese West Africa, the whole of South, East, and North-east Africa to Abyssinia and the Sudan, Madagascar, and Arabia.

SCOPUS UMBRETTA MINOR Bates.

Scopus umbretta minor Bates, Ibis, 1931, p. 302: Bonthe (Sherbro Is.), Sierra Leone.

Size small. Wing 246–266 mm.

Three specimens measured.

Range.—Coastal area of Sierra Leone to Southern Nigeria.

We have studied the measurements given by Claude Grant, Ibis, 1915, p. 68; Reichenow, J. f. Ornith. 1921, p. 265; Bannerman, Rev. Zool. Afr. 1922, p. 179; Bates, Ibis, 1931, p. 301; and Chapin, "Bds. Belg. Congo," 1932, p. 449.

Reichenow's eleven birds from Togoland measured 295–315 mm., but he does not say whether they are inland or coastal birds. Fouta Djallon and Kati, quoted by Chapin, are both inland localities within the range of *S. u. bannermani*. The measurements we have taken show clearly that the females are, on the average, smaller than the males in all three races.

Sclater, Syst. Av. Æthiop. i. 1924, p. 31, gives, "*i. e.*, Senegal, ex Buffon, Pl. Enl. no. 796."

Gmelin gives references in the following order:—

Brisson, Av. 5, p. 503, no. 1.
Buffon, Hist. Nat. des Ois. vii. p. 440.
Buffon, Pl. Enl. no. 796.
Brown, Illustr. p. 90, t. 35.
Latham, Syn. iii. i. p. 30, no. 1, t. 77.

We are, therefore, of opinion that, in accordance with strict priority, the correct reference should be "*i. e.*, Senegal, ex Brisson, Orn. v. 1760, p. 503."

British Trust for Ornithology.

At a meeting of the British Trust for Ornithology held at the British Museum (Natural History) on Tuesday, April 11, 1933, it was decided to launch a public appeal for funds.

The aims of the Trust are to promote research in field-ornithology. Its chief aim, in the first instance, is to obtain funds for financing "an Institute of Ornithology at Oxford" which will act as a central organization and a clearing-house for special investigations on the numbers, distribution, movements, migration, and habits of birds.

The minimum annual subscription for members of the Trust has been fixed at 10*s*. 0*d*., but it is hoped that those who can afford it will subscribe a Guinea. Donations of £10 or over entitle the donor to life-membership.

The following is the text of the appeal which is to be issued to the public:—

AN INSTITUTE OF ORNITHOLOGY AT OXFORD.

During the past few years developments in several branches of ornithology have become extraordinarily rapid. To mention only a few instances—the attack on the migration problem through large-scale marking of wild birds, through experiments on the effect of light, temperature, and other factors; the attack on distribution, through intensive work on the territory theory, through bird censuses, which sometimes involve more than a thousand observers, and through general ecological approaches; and the growing emphasis on the economic reactions of a bird-population—may illustrate the pace and scope of the advance. All these instances point to one evident conclusion—that the demands of contemporary research have in this field outstripped the training and organization available for meeting them.

In the United States a government-run Biological Survey supplies resources and direction; here the field-worker has no such machinery, either official or unofficial, for reinforcing his individual efforts. The elementary co-operative services—a common library of books, MSS., and photographs, a clearing-house of information and contacts, a national field-centre which can collaborate with other national field-centres overseas, a permanent experimental reserve for long-term research—still remain to be provided.

At Oxford six years ago a series of researches was begun on the numbers, habits, and economic status of certain Midland species, and these researches have recently depended to a large extent on Government grants. Owing to the termination of these grants at the end of September, the future of the work (papers on which have appeared, or are pending, in 'British Birds,' the 'Journal of Ecology,' the 'Journal of Animal Ecology,' and the 'Journal of Agriculture') is imperilled. After consultations between representative field-ornithologists, it has been decided to try to turn the emergency into an opportunity by establishing a British Trust for Ornithology to act as a permanent trustee and to raise through every possible channel funds to support an Institute of Ornithology at Oxford as a national centre. The Trust is seeking incorporation and has already been given or promised valuable assets in cash and in kind, including collections of MSS., whose permanent availability to research workers is of capital importance.

The Trust is appealing for £8000 to carry it over the next five years, until permanent endowments can be arranged. Payment of donations may be spread over the whole period, and those who may be in a position to contribute or to help in any other way are urged to get into touch with the acting Hon. Treasurer, B. W. Tucker, M.A., University Museum, Oxford, or the acting Hon. Secretary, E. M. Nicholson, 58 Petty France, London, S.W. 1, who will gladly give further information.

NOTICES.

The next Meeting of the Club will be held on Wednesday, May 10, 1933, at Pagani's Restaurant, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine are requested to inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

Agenda.

Dr. C. H. Kellaway, of Melbourne, will show a series of lantern-slides of Australian Birds.

Bird Room.

1 JUN 1933
PURCHASED

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXIX.

The three-hundred-and-sixty-fourth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W. 1, on Wednesday, May 10, 1933.

Chairman : Mr. D. A. Bannerman.

Members present :—E. C. Stuart Baker ; Miss P. Barclay-Smith ; F. J. F. Barrington ; Miss R. Blezard ; Hon. G. L. Charteris ; Maj.-Gen. Sir P. Z. Cox ; C. Daniels ; Miss E. M. Godman ; Capt. C. H. B. Grant ; Col. A. E. Hamerton ; Dr. E. Hopkinson ; Miss E. P. Leach ; Dr. G. Carmichael Low (*Editor*) ; Dr. P. R. Lowe ; Dr. N. S. Lucas ; T. H. McKittrick, jun. ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; Dr. P. H. Manson-Bahr ; G. M. Mathews ; J. G. Mavrogordato ; Mrs. C. D. Murton ; C. B. Rickett ; W. L. Sclater ; D. Seth-Smith ; Major A. G. L. Sladen ; C. G. Talbot-Ponsonby ; Marquess of Tavistock ; A. Landsborough Thomson ; Dr. C. B. Ticehurst ; B. W. Tucker ; Miss E. L. Turner ; H. Whistler ; H. F. Witherby (*Vice-Chairman*) ; C. G. M. de Worms.

Guest of the Club :—Dr. C. H. Kellaway (Melbourne).

Guests :—Mrs. Brack ; Dr. N. Hamilton Fairley ; W. P. Lowe ; Capt. A. Lyell ; Col. F. P. Mackie ; Mrs. C. W. Mackworth-Praed ; Mrs. W. L. Sclater ; Mrs. B. W. Tucker.

Dr. C. H. Kellaway showed an interesting series of photographs of common Australian birds at the nest. About sixty pictures were shown, including studies of forty-five species, collected during the last seven years. All the photographs

[*May* 27, 1933.]

except four were obtained in Victoria, and of the exceptions, two were taken near Adelaide, in South Australia, and two at Narrandera, in southern New South Wales. About a dozen of the pictures—including studies of the Australian Raven (*Corvus coronoides*), the Brown Hawk (*Ieracidia berigora*), the Banded Stilt (*Cladorhynchus leucocephalus*), the Banded or Australian Black-breasted Plover (*Zonifer tricolor*), the Spur-winged Plover (*Lobibyx novæ-hollandiæ*), the Magpie-Lark (*Grallina cyanoleuca*), the Tawny Frogmouth (*Podargus strigoides*), and the White-backed Magpie (*Gymnorhina hypoleuca*)—were obtained at Warncoort with the help of Mr. Vernon Dennis. The remainder were obtained at Berwick, Clunes, Macedon, Ringwood, Rye, and Lorne.

Dr. Kellaway prefaced his remarks by comparing the conditions for photography in England with those prevailing in southern Australia. He thought that on the whole the Australian birds were less wary than the European species, though this did not apply to the Crows and Hawks. The light was generally harder and more brilliant, but many of the nests were to be found in densely shaded places, which made photography difficult. There were also special difficulties in the case of birds nesting in high eucalyptus, though these only applied in one or two of the photographs shown.

The Honey-eaters were represented by nine species—*Acanthagenys rufogularis*, *Myzantha melanocephala*, *Coleia carunculata*, *Manorina melanophrys*, *Gliciphila melanops*, *Nesoptilotis leucotis*, *Paraptilotis chrysops*, *Phylidonyris pyrrhoptera*, and *Meliornis novæ-hollandiæ*.

In addition to those already mentioned, the series included pictures of two Pardalotes (*Pardalotus punctatus* and *P. ornatus*), the Brown Tree-creeper (*Climacteris picumnus*), the Grey Shrike-Thrush (*Colluricincla harmonica*), two Whistlers (*Pachycephala pectoralis* and *P. rufiventris*), the Eastern Coach Whip-bird (*Psophodes olivaceus*), the Grey Butcher Bird (*Bulestes torquatus*), the Boobook Owl (*Spiloglaux boobook*), the Eastern Rosella (*Platycercus eximius*), the Ground-Thrush (*Oreocincla lunulata*), the Australian Reed-Warbler (*Acrocephalus australis*), the White-browed Babbler (*Pomatostomus superciliosus*), the Little Grebe (*Poliocephalus ruficollis*), and the Bronze-winged Pigeon (*Phaps chalcoptera*).

Dr. C. B. TICEHURST exhibited some young in down of various Waders, and made the following remarks :—

I have on a good many occasions exhibited to you the young in down of various birds, and some of these here to-night you have seen before. They are shown again merely for comparison. Several of the others may be new to you.

The first bird I would draw your attention to is the Killdeer Plover (*Oxyechus vociferus*). Dr. P. R. Lowe has told us that this bird belongs to the Vanelline association. You will see that the characters of the downy young are not typical Charadriine or Vanelline: they have the white collar found in both subfamilies, but the down-pattern stands rather apart from both. I would further call your attention to the long tufts of the upper tail-coverts and tail. Such long tufts are absent in *Charadrius*, *Leucopolius*, and *Vanellus*, as you can see. It is obvious that this chick when taken was a good many days old, and yet I have seen no such tail-tufts in other chicks of Waders except in quite newly hatched *Charadrius dubius*, *Actitis hypoleucos*, and *Lobivanellus indicus*. In chicks of the first-named species a few days old the tail-tufts are absent, and I feel quite sure that the chicks of *Leucopolius alexandrinus*, *Charadrius hiaticula*, *Dromas ardeola*, *Himantopus himantopus*, *Glareola pratincola*, *Capella gallinago*, *Scolopax rusticola*, *Phalaropus lobatus*, *P. fulicarius*, *Erolia* spp., and *Vanellus* on hatching, or soon after, do *not* have long tail-tufts. Possibly they are shed in the shell or are small and inconspicuous, but the whole question wants much further research, and I only draw your attention to it, as I have not come across any notes about it in literature.

The Greater Yellowshank (*Totanus melanoleucus*) is quite typical of the genus in down-pattern. I have placed a Redshank beside it for comparison.

The Wandering Tattler (*Heteroscelus incanus*) has a down which is very distinctive. Dr. Lowe puts the species in the Tringine subfamily, and correctly, as I should judge, but I cannot subscribe to the idea of others that it belongs to the genus *Tringa* as commonly accepted. The *two* facial dark streaks—loral and down the middle of the crown—show its Tringine affinity, but the marked pattern on the dorsal surface so characteristic of *Tringa* is absent. In this respect it resembles more the Common Sandpiper. From this and other characters shown in the adult, such as the proportionately stout legs and feet, I consider the genus *Heteroscelus* well founded.

EROLIINÆ.—Dr. Lowe and I have before stressed the Eroliine down-pattern, characterized particularly by the *three* facial streaks (the one from the bill-angle being the third) and the tiny " snow-flake " dots on the dorsal surface. Here you will see the chicks of nine forms. The Knot, as I before remarked, is not quite typical of *Erolia*, and from this, and other considerations, I should put it in a different genus (*Calidris*). The others—*Erolia minutilla*, *mauri*, *pusilla*, *maritima*, *alpina*, *bairdii*, and *temminckii*, and *Eurynorhynchus pygmeus*—are all quite typical in down-pattern.

BARTRAMIA LONGICAUDA.—This is put by Dr. Lowe in the Limosine association with the Curlews and Godwits. It is evidently a very aberrant bird, judging from its downy chick. The down-pattern does not recall a Godwit's, nor is it at all like a Curlew's. The hair-like element in the down is rather pronounced, especially about the head, giving a silky instead of a woolly appearance, but one can see the same thing in the Curlew.

ARENARIA.—You will see here, side by side, the chicks of *A. interpres* and *A. melanocephala*. The latter is very remarkable, I think, in that it has a *paler* pattern than has *interpres*, and is a beautiful example of what Dr. Lowe has termed adumbration. One would expect, I think, that the Black Turnstone would have had the darker pattern of the two. Note that the character of the bill in both at this early stage is already marked.

SQUATAROLA and PLUVIALIS.—The similarity in down-pattern here is very evident, but Dr. Lowe has already commented on this. At the same time the two chicks can be easily differentiated.

Dr. Lowe has already pointed out (Ibis, 1933, p. 114) that pairs of species like the Kentish and Ringed Plover or the Grey and Golden Plover, whose anatomical characters are so distinct that one must divide them generically, have downy characters so similar that one must suppose a common descent and not a convergence later. Or, as I may put it, as they became modified structurally, and so diverged from the branch-stem, they carried the ancestral colour-patterns of the chick with them.

Hence it follows that the downy pattern of the chick is to-day a far older character than the slight osteological modifications which have been pointed out. You may recall, too, in mammals that a spotted pelage in the young is common to many structurally distinct felines.

You will remember that in a great many birds which have what I may call for the moment "queer-shaped" bills, the bill is not "queer-shaped" in the chick, such as, for instance, in the Shoveler, Spoonbill, Curlew, Creeper, Crossbill, etc., and these "queer-shaped" bills are looked upon as very late characters in the horizon of time, and due to adaptation. Now if you will look at the chick of *Eurynorhynchus pygmeus* you will see that, on hatching, its bill is a replica of that of the adult. That is, I think, a very remarkable thing, and it must surely show that this modification is a very ancient character. How much more ancient then must be the colour-pattern, which you will see very closely resembles those of the other Eroliinæ.

Note.—The genus *Ereunetes* seems to be founded on extremely slender grounds. Apart from a very slight modification of the bill, the character depended on is the semi-webbed condition of the toes. This latter character is seen to a somewhat less degree in *Charadrius semipalmatus*, yet this bird has so far escaped the genus-splitter; in fact I have heard that there are some who would consider it but a race of *Ch. hiaticula*! The two views are extremes, and both cannot be, and perhaps neither is, satisfactory.

Descriptions.—As I cannot find any descriptions of the downy young of any of the following in English literature, I append them :—

OXYECHUS VOCIFERUS.—Loral line to eyes, a narrow band on forehead becoming indistinct over the eyes and joining with a distinct coronal band, black; beneath the latter a broad white band surmounting a broad black complete collar. Rest of upper-parts greyish-buff, with darker marks indistinct ; mid-dorsal line and lateral lines from tail to thighs black ; vent pale buff ; rest of under-parts, except collar, white. Upper tail-coverts long and banded buff and black ; tail-tufts long, black centrals, white laterals.

Erolia pusilla.—Lores and forehead white ; the usual three Eroliine dark " face-streaks " ; upper-parts variegated black and chestnut-buff, the black elements carrying the usual " snow-flake " tips ; under-parts white, tinged with buffish-white on the throat and pectoral region.

Erolia minutilla.—Similar to *pusilla*, but the rufous element is rich chestnut, and the throat and pectoral region are tinged with this colour.

Eurynorhynchus pygmeus.—Similar to *pusilla*, but immediately recognizable, not only by the flat triangular bill, but by yellow-buff replacing the chestnut element.

Totanus melanoleucus.—Typical Totanine pattern. The black element accentuated, taking up more space in the pattern than in *T. totanus* ; pale element buffish-grey ; under-parts white, in the region of the throat dusky tips to hair-like down.

Heteroscelus incanus.—Two narrow black face-streaks as in *T. totanus*. General colour dusky black and grey, the black much suppressed, so that the upper-parts are much more uniform than in *T. totanus* and the Totanine pattern lost ; under-parts white.

Dr. C. B. Ticehurst also exhibited an example of the Maroon Oriole (*Oriolus traillii*), and made the following remarks :—

This very remarkable Oriole was collected by chance by Capt. F. W. Finch at Nathkaw, at 4100 feet, in the Naga Hills, in February last. Capt. Finch is not in any way an experienced ornithologist, but as he was touring an out-of-the-way district he made a haphazard collection which were roughly skinned by his cook. The ordinary maroon colour of the upper-parts and tail of the normal Oriole is in this bird replaced by bright red. Actually the normal colour is not quite the Maroon of Ridgway's 'Nomenclature of Colours,' but Claret Brown (pl. i.), and the red seen in this variety corresponds exactly with his

Scarlet. Now scarlet is a pure spectrum hue composed of 60 per cent. red and 40 per cent. orange, whereas claret-brown is the same colour shaded with 87·5 per cent. black. No doubt in the normal bird the colour is made up of a lipochrome and a melanin, and one can easily suppose, I think, that in this queer variety the melanin is absent, thus giving us the scarlet hue.

I am going to suggest that this bird throws some light on the very rare Oriole (*Oriolus mellianus*) which was described by Dr. Stresemann (Ornith. Monatsber. xxx. 1922, p. 64), and of which only a few specimens are known. In ‘ L'Oiseau ’ for April 1931 Dr. Stresemann brought together all that was known about this bird, and the coloured plate accompanying his article (which I also show you) gives us a very good idea of it. Now it is obvious from this plate that *O. mellianus* is very closely related to *O. traillii*. You will see that the red pigment is not absent in the tail, and is just indicated in the tail-coverts and scapulars, but on the rest of the dorsum, and on the breast, the bird is white, or nearly so. Here, then, is a bird which has not only lost the melanin, but also to a large extent the red lipochrome.

Oriolus mellianus is only known from four localities: N. Kwangtung, ♀, in May (type); Yaoshan, in Kwangsi, several males and females in breeding season (*Stresemann* and *Delacour*); ♀, Cambodia, in December (*Delacour*); and ad. ♂ from near Chantaboon, S.E. Siam (Dr. Hugh Smith coll.).

Dr. Stresemann has claimed that the first two localities represent the breeding area of this species and the two latter the winter quarters.

So far as is at present known *O. traillii* does not breed in Kwangsi and Kwantung, and I know of no proof that it is a migrant anywhere within its Indian range, but Delacour supposes that it is a winter visitor to Tonkin and Annam (where he obtained it), apparently in order to account for the presence of *O. nigellicauda* in the same area. But there is no proof one way or another of this supposition. The question of interest is whether *O. mellianus* is a sporadic variety, such as this Naga Hill bird which I show you to-night most certainly is, since *O. traillii* occurs in the same area, or whether in Kwangsi and Kwangtung it has segregated out as a stable form. If the latter, it seems to be a very beautiful example of separation into a race or species which surely started originally as a mutant from *O. traillii*.

BREEDING OF REDWING IN SCOTLAND.

Dr. PERCY R. LOWE exhibited the nest and two eggs of a Redwing (*Turdus musicus*) which had been taken in Scotland and presented to the British Museum. He said that he was not at liberty to disclose either the name of the donor or the locality.

The nest and eggs corresponded in every respect with those of the Redwing with the exception that the eggs were a little smaller than those typical of the generality of clutches.

The nest, which was smaller than that of a Blackbird, was slightly more than three inches (77 mm.) across the cup (inside measurement). The two eggs measured respectively 23×18 and 23·5×17 mm.

Of the authenticity of the nest and eggs there can be no doubt, as both male and female parents had been observed for some time, and their peculiar song specially noted.

Unfortunately, while the nest was under observation, the female bird disappeared, and as some blood was found smearing one of the eggs in the nest, the inference was that she had come to a violent end.

It will be remembered that the nesting of a pair of Redwings was recorded last year in 'British Birds' (xxvi. 1932, pp. 132–134) by Mr. A. H. Daukes from the same district.

Capt. CLAUDE H. B. GRANT and Mr. C. W. MACKWORTH-PRAED sent the following three notes :—

1. The Correct Type-locality of the Purple Heron, PYRRHERODIA PURPUREA PURPUREA (Linnæus).

Linnæus, Syst. Nat. ed. xii. i. 1766, p. 236, gives the locality "in oriente," and gives one reference only, to

Brisson, Orn. 1760, p. 424, who gives locality as "borders of rivers and marshes," but no references.

As we cannot find that any type-locality has been fixed for this bird, and as it would appear desirable, after a lapse of 167 years, to have something more definite than "oriente," we have endeavoured to trace a locality in the earliest works that refer to this Heron. We have found the following :—

1745. Marsigli, Vög. Danube, 1745, p. 20 : Danube.

1750. Klein, Hist. Av. 1750, p. 124, no. xii. : no locality.

1783. Buffon, Ois. vii. p. 208; Pl. Enl. 788, 1783 : Danube.

1785. Latham, Syn. Bds. iii. 1785, p. 96 : banks of the Danube.

As three out of these four authors give the Danube as a locality, we are of opinion that the correct type-locality of *Pyrrherodia purpurea purpurea* should be the River Danube, Middle Europe.

2. The Correct Type-locality of the Long-tailed Cormorant, or Reed Duiker, PHALACROCORAX AFRICANUS AFRICANUS (Gmelin).

In 'The Ibis,' 1915, p. 75, Claude Grant designated White Nile District as the type-locality, but this is not quite correct.

Gmelin, Syst. Nat. i. 1789, pt. 2, p. 577, gives Africa, and refers only to Latham, Syn. Bds. iii. 1785, 2, p. 606, no. 23, who also gives Africa, but no references.

The following are also early references to this bird :—

1790. Latham, Ind. Orn. ii. 1790, p. 890, who gives Africa.

1790. Bonnaterre, Tabl. Encycl. Méth. i. 1790, p. 51, who gives Africa.

1808. Savigny, Syst. Ois. de l'Egypte, 1808, p. 420, who gives "from Egypt to the Cape of Good Hope," and this author's Desc. de l'Egypte, Taf. 8, fig. 2, 1809, which is the figure of an adult in full black dress.

1817. Vieillot, Nouv. Dict. d'Hist. Nat. viii. 1817, p. 88: no locality.

1826. Shaw, Gen. Zool. xiii. 1826, pt. 1, who gives Africa.

1837. Swainson, Bds. W. Afr. viii. 1837, p. 255 : no locality.

1844. G. R. Gray, List Bds. iii. 1844, p. 188, who only refers to Gmelin and Swainson.

1845. Rüppell, Vög. N. O. Afrika, 1845, p. 140, who gives "common on the banks of the Nile," and refers to Savigny.

1850. Hartlaub, Beitr. Orn. W. Afr. 1850, p. 44, who gives Senegambia.

As Gmelin and Latham only give Africa, we have, in accordance with the rules of priority, sought for a more definite locality in the earliest works that refer to this bird, and we have found this, in Savigny, as Egypt. Thirty-seven years later Rüppell refers to Savigny and gives a more definite locality within Savigny's general locality. As we know that this Cormorant occurs as far north as the Fayûm, Egypt, we are of opinion that the type-locality of *Phalacrocorax africanus africanus* (Gmelin) should be the River Nile, Egypt.

3. A more definite Type-locality for the African Woolly-necked Stork, Dissoura episcopus microscelis (Gray).

As G. R. Gray, in Gen. Bds. iii. 1848, p. 561, pl. 151, gave no locality, Reichenow, Vög. Afrika, i. 1900–1, p. 348, has designated Africa, and this has been accepted. In these days of closer zoogeographical work, it would appear desirable to endeavour to find a more exact locality than Africa, and there is little doubt that the plate in Gray's work was drawn from an actual specimen, and it is quite probable that this specimen was in the British Museum collection. Two specimens were in the collection at that time, both from South Africa, one from the Derby collection (no. reg.), and one from Verreaux (Brit. Mus. Reg. no. 1843.2.28.21); the latter is possibly the specimen entered in the Cat. Bds. Brit. Mus. xxvi. 1898, p. 296, as from Sir A. Smith.

The measurements of these two birds (in millimetres) are:—

	Derby Bird.		Verreaux Bird.
Wing	389	(to end of inner secondaries)	451
Culmen....	122		138
Tarsus	131		139

The measurements taken from the plate in Gray's work are:—

Wing	210
Culmen................	69
Tarsus	76

If the plate has been drawn to half-size, and from one of the two specimens mentioned above, the discrepancy between the plate and the Derby bird is, on the average, less than with the Verreaux bird, although the latter agrees with the plate in the measurement of the culmen.

A comparison of the plate and the two skins shows that the Derby bird agrees in the head-markings, especially in the crown being black to the base of the bill. The plate does not appear to show any primaries, but only the elongated innermost secondaries, and an examination of the Derby bird shows that the primaries have been clipped. It therefore appears very probable that the plate was drawn from the Derby specimen, but there is not at present sufficient proof to warrant this specimen being considered the type. We consider, however, that the plate was drawn from one or other of these specimens, or a combination of both, and, therefore, suggest that the type-locality of *Dissoura episcopus microscelis* be designated as South Africa.

Mr. G. L. Bates sent the following note :—

Professor Oscar Neumann, in his note published in the 'Bulletin' for January last (*antea*, p. 96), following my description of a new race of *Charadrius marginatus* in the October number (*antea*, p. 10), has contributed much to the understanding of the history of our knowledge of this African Sand-Plover. I think I can, from further study, throw a little more light on the distribution and affinities of this rather poorly known species.

I cannot undertake to give any definite view of its races and their ranges, for much more material is required for that. All I will do for that part of the subject is to give a list, in the order of their priority, of the six races which now seem to have more or less prospect of becoming recognized as valid when better known, with their typical localities :—

Ch. m. marginatus. 1818. Coast of South Africa.

Ch. m. tenellus. 1861. Coast of Madagascar.

Ch. m. mechowi. 1884. Quango River, N. Angola.

Ch. m. pons (Neumann's *Ch. alexandrinus pons*). 1929. Coast of S. Somaliland.

Ch. m. hesperius. 1932. Coast of Liberia.

Ch. m. nigirius. 1932. Upper Niger River.

I do not think it likely that inland specimens will prove to be of one race distinct from the coastal ones, as Neumann suggests, and I do not expect that *nigirius* will prove to be the same as *mechowi*. But I never could be quite satisfied about the distinctness from each other of the races of the East and West Coasts of Tropical Africa (*tenellus* and my *hesperius*).

I was evidently greatly in error in stating that this species has been found "only on sea-beaches and on banks of rivers near their mouths." It was Neumann's recent note that first opened my eyes to the wide inland distribution of *Charadrius marginatus*. To the inland localities in West Africa which he gives are to be added the Zambezi River and Lake Nyasa, given in Sclater's 'Systema Avium Æthiopicarum,' p. 118, for *tenellus*; and I have recently discovered, by a thorough search among the specimens in the British Museum, some from other localities far inland. One is an adult collected by Boyd Alexander on the Ubangi River. Two more are juvenile birds which had been wrongly identified as *Ch. pecuarius*. (I do not here take space to give all the distinguishing marks by which I could tell these two species apart when in juvenile plumage, but wish to mention one—the small feet of *Ch. marginatus*.) One of these juvenile specimens of *Ch. marginatus* is from Goz Abu Guma, on the White Nile; the other is one I collected myself in November 1922 at Guna, south of Garua, in N. Cameroon. This last was not even on the bank of any river, but "shot on the ground near a pool in the path," as I wrote it down at the time. (The Benue River was less than 50 miles away.)

Now, I wish to speak of Neumann's idea of uniting *Charadrius marginatus* with *Ch. alexandrinus*. A study of the specimen in the British Museum from Obbia, on the Somali coast, which Neumann himself considers an example of his *pons*, together with the characters of that race given by the author himself (Nov. Zool. xxxv. 1929, p. 212), convinces me that *pons* is not to be regarded as an intermediate connecting race, but merely a race of *marginatus*. I will not give all the details that lead me to that conclusion, but will mention again the characteristic small feet of *Ch. marginatus*; the Obbia specimen has a tarsus of 24·5 mm., while a large number of specimens of *Ch. alexandrinus seebohmi* from the north coast of Somaliland and Sokotra have tarsi 27–29 mm. and stronger-looking feet. But my chief objection to uniting *Ch. marginatus* with *Ch. alexandrinus* is that the black band across the head of the former, though similar in appearance to that found in the latter, is found in both sexes alike, and its presence or absence in adults is a matter of season, not of sex.

Mr. Gregory M. Mathews sent the following descriptions of a new form of the White Capped Albatross, a new form of Wandering Albatross, and a new Whale-bird from the Atlantic Ocean:—

Diomedella cauta atlantica, subsp. nov.

Description.—Differs from any form of *D. cauta cauta* in having the fleshy sulcus at the base of the lower mandible orange, not fleshy colour. The culmen and the ramus of the lower mandible are yellow. The bill is the same length as the bill of the Wandering Albatross inhabiting the same locality, but deeper through in the middle.

Measurements.—Wing 553; tail 223; culmen 136; depth at base 52, at the middle 39; tarsus 111; outer toe 122, middle toe 135 mm.

Distribution.—Collected in the South Atlantic Ocean, lat. 35° 44′ S., long. 53° W., about 120 miles off the coast of the Province of Buenos Aires, Sept. 6, 1926.

Type.—In the National Museum of Buenos Aires.

Remarks.—My thanks are due to Dr. R. Dabbene for his help. The form has so far not been recorded from the Atlantic Ocean. It differs from *Thalassarche desolationis* in the shape and length of the bill; in *desolationis* the measurements are: length 112 mm.; depth at the base 43, in the middle 28. In *D. c. atlantica* the fleshy sulcus on the lower mandible is angular in shape, while in *desolationis* there is the usual bar at the base of the ramicorn, and no angle.

In the immature *D. c. atlantica* the fleshy sulcus is the same angular shape as in the adult, but of a blackish-brown colour; the bill is uniform grey, with the nail on the upper and lower mandible blackish horn-colour; length of the bill 126 mm.

Dr. Dabbene has sent me a coloured drawing of the type of *Diomedea exulans alexanderi*, together with the measurements, which are: bill, length 136; depth at the middle 36 mm.; eyelid blue; also a drawing of the bill of *Diomedea exulans* from South Georgia the length of which is 170 mm.; eyelid red.

I name the bird from South Georgia

Diomedea exulans georgia, subsp. nov.

Description.—Differs from *D. e. alexanderi* in having a much longer bill and in having the eyelid red, not blue.

Type.—In the National Museum of Buenos Aires, an adult ♂ collected in South Georgia.

Pachyptila vittata georgicus, subsp. nov.

Description.—Differs from *P. v. keyteli* in having a narrower bill. In *P. v. keyteli* the bill is 20 mm. wide at the base, while in birds from South Georgia the measurement is between 14 and 15 mm.; adult ♂, wing 188–194, ♀ 188 mm. The adult of *P. v. vittata* has the wing-measurement of 209 mm.

Distribution.—South Georgia and surrounding seas.

Type.—In the British Museum. Stomness Bay, South Georgia, November 26, 1913. Brit. Mus. Reg. no. 1914.3.8.38.

NOTICES.

The next Meeting of the Club (the last of the Session) will be held on Wednesday, June 14, 1933, at Pagani's Restaurant, 42–48 Great Portland Street, W. 1. The Dinner at 7 p.m.

Members intending to dine are requested to inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

Agenda.

Mr. Jack Mavrogordato will read a paper, illustrated with photographs, entitled "Flights with the Trained Goshawk," and will show specimens of English and Indian falconry equipment.

Bird Room.

17 JUL 1933
PURCHASED

BRITISH MUSEUM NATURAL HISTORY

BULLETIN

OF THE

BRITISH ORNITHOLOGISTS' CLUB.

No. CCCLXX.

The three-hundred-and-sixty-fifth Meeting of the Club was held at Pagani's Restaurant, 42–48 Great Portland Street, W.1, on Wednesday, June 14, 1933.

Chairman : Mr. D. A. Bannerman.

Members present :—Miss C. M. Acland ; F. J. F. Barrington ; P. F. Bunyard ; Hon. G. L. Charteris ; H. P. O. Cleave ; Maj.-Gen. Sir P. Z. Cox ; Miss J. M. Ferrier ; Miss E. M. Godman ; Capt. C. H. B. Grant ; Rev. J. R. Hale ; Col. A. E. Hamerton ; R. E. Heath ; Dr. E. Hopkinson ; Dr. K. Jordan ; N. B. Kinnear ; Miss E. P. Leach ; Dr. G. Carmichael Low (*Editor*) ; Dr. N. S. Lucas ; C. W. Mackworth-Praed (*Hon. Sec. & Treas.*) ; T. H. McKittrick, jun. ; Dr. P. H. Manson-Bahr ; G. M. Mathews ; J. G. Mavrogordato ; C. Oldham ; H. J. R. Pease ; Lord Rothschild ; R. G. Sandeman ; W. L. Sclater ; D. Seth-Smith ; Major A. G. L. Sladen ; Dr. A. Landsborough Thomson ; B. W. Tucker ; H. M. Wallis ; H. F. Witherby (*Vice-Chairman*).

Guests :—Miss C. E. Godman ; Miss E. Hulse ; Capt. C. Knight ; N. B. Knight ; I. S. Malcolm ; P. E. C. Manson-Bahr ; R. E. Moreau ; Mrs. W. L. Sclater ; N. White ; Mrs. H. F. Witherby.

Mr. J. G. Mavrogordato read a paper, illustrated with photographs, entitled "Flights with the Trained Goshawk":—

The Goshawk (*Astur g. gentilis*) is a yellow-eyed, short-winged bird of prey. It closely resembles the Sparrow-Hawk (*Accipiter n. nisus*) both in appearance and in flight, and almost certainly also in habits, though as my experience of the wild Goshawk is limited to a brief glimpse of two birds, seen from a car and from a train, respectively, in Corsica a few years back, this is mere inference on my part, from the similarity in structure.

The main differences, apart from size, between the two that strike the ordinary observer are the following:—

The legs of the Goshawk are comparatively much shorter and stouter. As a result of this it lacks the upright stance of the Sparrow-Hawk, which stands bolt upright on its long and slender legs, like a toy soldier on parade. This difference in the legs is probably to be accounted for by the difference in the food, the Goshawk, unlike the Sparrow-Hawk, preying largely on "fur," as well as "feather."

The immature Goshawk has tear-drop markings on the breast and thighs in place of the bars of the immature Sparrow-Hawk, and the tail-feathers are tipped with white. After the first moult it attains a barred front, and loses the white tip to the tail, thus approximating more closely in plumage to the Sparrow-Hawk, but the male differs only slightly in the brightness of his colouring from the female, and does not acquire the showy rufous front and blue back of the adult male of the Sparrow-Hawk.

Both hawks have short wings, which sharply differentiate them from the true Falcons. The wings are rounded in appearance, the fourth primary being the longest; the primaries are markedly emarginated, the bastard primaries are conspicuous, and the feathers generally are soft and pliant and almost Owl-like. The tail is long and flexible and, in the opinion of falconers, regrettably weak; in practice it seldom stands up indefinitely to the violent stresses to which it is subjected during the capture of a rabbit or hare, and by the end of the season, unless one is unusually lucky or skilful, the tips of several feathers will be conspicuous by their absence, and a few of the middle feathers will have suffered more serious breakages. The wing-feathers, on the other hand, are very strong, and the loss of even a tip is almost unknown if proper care is exercised. The reason why wild hawks are nearly always found to be in perfect feather is probably due to the fact that they fly only to please themselves, and avoid large and difficult quarry except in an emergency. I suspect that full-grown hares, even mountain hares, form a very small percentage of the food of the wild Goshawk.

These characteristics of short wings and long tail are those we should expect to find in forest birds. They adapt the owner for quick turns and sudden stops in confined spaces, and consequently for short dashes rather than prolonged flights. The tail assists in these twists and turns, though probably to a less extent than might be imagined, as tailless birds have been known to catch rabbits.

The old French falconers used to call these short-winged hawks "voiliers saillants," or catapulted gliders so to speak, as opposed to ordinary gliders or soarers like the Kite or Buzzard, and to the "rameurs" or rowers like the true Falcons, which progress by powerful wing-beats of a stiff blade-like wing. This kind of spring or leap is the secret of the Goshawk's amazing quickness off the mark, and its gliding is the secret of its ultimate momentum. If a Peregrine starts to glide on outspread wings in the middle of a flight, nine times out of ten it has abandoned the pursuit. The Goshawk is never more deadly than when it stops beating its wings and starts to glide: like a boat which runs fastest between the strokes, or a skater who shoots forward with increased momentum the instant he stops striking out, and glides with both feet together, the Goshawk shoots forward at a markedly increased speed when it spreads its wings and glides, and very often it adopts this technique when nearing the quarry, partly with a view to putting on the necessary spurt and partly, perhaps, to facilitate the actual "footing" of the quarry at the moment of impact.

The Goshawk's feet are incredibly powerful, and the long curved claws on the back and inner toes exert a terrific pressure, which is sufficient to kill a rat or young rabbit almost instantaneously. On the other hand, the beak is not a weapon of offence at all. It lacks the Falcon's "tooth," which the latter uses for breaking the neck of its victim, and is only used for tearing off the flesh: the killing is accomplished solely by the pressure of the feet. The bite of an angry Peregrine is a thing to remember, but a disgruntled Goshawk's feet are all that one need watch, though its beak is powerful enough.

Finally, the Goshawk, like the Sparrow-Hawk, has a yellow eye. It begins life as a watery greenish grey, darkens to yellow by the first winter, and to orange after successive moults. The bird is amazingly keen-sighted, and reacts almost instantaneously to what it sees, so that a constant difficulty experienced in practice when flying the Hawk is to slip it at the right moment—that is to say, when it has sighted the quarry, but before it has hurled itself from the fist in pursuit; for if the falconer is himself, as he is almost bound to be, less quick-sighted, and so caught unprepared, the hawk will be held back by the jesses (the leather straps round its legs) when it tries to fly from the fist, and when slipped from that position will have lost all the benefit of its initial spring.

Curiously enough, the eyes are at first chiefly, if not entirely, attracted only by movement, and the bird will not attempt to fly a stationary rabbit that is in full view, and perfectly obvious to the falconer. Later it learns to recognize rabbits at a distance, and eventually will begin to spot them in their seats. My own hawk has now started to do this, and has recently spotted in some reeds a rabbit which was apparently quite motionless and had only its head showing, and a hare in its form, which I was walking past when the hawk's craned neck and expectant attitude attracted my attention. I stopped and looked around, but could see nothing, and was just about to move on again when a big hare got up out of its form only three or four yards from me. Had it not been for the hawk I should have walked right past it, and an exciting (though unsuccessful) flight would have been missed.

The distinction in size between the sexes is considerable, though I fancy less marked than that between the Sparrow-Hawks. The Goshawks from the more northern countries also appear to be larger, sex for sex, than those from the south. In 1932 young birds were imported from Germany, Norway, and Finland, and average weights for females were 2¼ lb., 2½ lb., and 2¾ lb. respectively. The weight, of course, gives only a rough and unscientific indication of the size. The males turned the scale at between 1½ lb. for a German male, and something like 2 lb. for a Finland male.

The more southern birds also appear, as might be expected, to nest earlier. Fully fledged German birds were received about the middle of June, Norwegian birds in the beginning of July, Finland birds at the end of that month or later.

The birds to be trained should be taken and sent off just before they would normally leave the nest, when they are robust and nearly fully fledged, but before their tails have grown long enough to be damaged in transit.

The birds so received will be too young for training for about another month. The wing- and tail-feathers must be allowed to grow right down and harden in the flesh, and during this somewhat lengthy process the bird must be given all the food it can eat, and training is out of the question. Any attempt at this stage to secure obedience by the dieting necessitated when actual training does start will result in "hunger-streaks," which are faults or flaws in the shafts and webs of the feathers, particularly the tail-feathers, that appear as they grow out of the body. These hunger-streaks weaken the feathers affected, making them liable to give way under any sudden strain, besides being unsightly, and a bad advertisement for the falconer concerned.

Training proper begins when the feathers are really down. And first, as to equipment. The essentials are jesses, bells, swivel, and leash. But not the hood. I am afraid most people are disappointed when they learn that the Goshawk is never hooded nowadays, except on very rare occasions, such as journeys by rail. These hawks must be kept tame, and the more they are allowed to see, the tamer will they become. Hooding them not only deprives them of this opportunity of becoming tame, but, in addition, both the actual act of hooding and the state of being hooded are exceedingly distasteful to the Goshawk, and will do much to nullify the efforts of the falconer to win the respect and affection of his hawk. The jesses are, as has already been mentioned, the straps fastened round the hawk's legs. These are never removed. To these are fastened the swivel and the leash, which are both removed in readiness for a flight. When at home, the hawk is attached by the leash to its perch. The bells are fastened round the legs above the jesses, and are invaluable for tracing a hawk which has flown out of sight, and perhaps killed its quarry in the middle of a copse or wood.

The bird to be trained will at this stage be very fat and unruly, will shriek with anger when touched, and refuse to stand on the fist for more than a few seconds at a time without "bating," that is to say, hurling herself off the fist in a panic, and hanging upside down by the jesses. She will probably refuse to eat with anyone in sight, and generally prove herself to be in every way "as wild as a hawk." The first step is to get rid of her internal fat and make her look forward to her meals. Hitherto the food will have been thrown to the hawk, and the hawk allowed to eat it when she pleased; now it must only be offered to her while she stands on the falconer's fist. She may start to eat, in a nervous, hesitant way, almost at once. More probably she will refuse to touch the food for one, two, or even three days. But you must harden your heart; the self-imposed fast will not do her any harm in her present condition, and if you surrender now you are lost. Sooner or later she *will* eat. When she does so readily and eagerly, her meals, which at first must be given in some quiet spot free from distracting sounds or sights, must be made more public, and she must be carried about the neighbourhood as she eats and introduced to people, dogs, horses, cars, and other terrifying monsters till she learns that they do not harm her or interfere with the enjoyment of her meal. By the time she has learned this she will be tamed and half trained, and will look forward to the falconer's visits and the meals they connote, instead of screaming with anger or terror at the sight of him. The next step in the training is to make the hawk come to the falconer for her food: at first a hop of a few inches from her perch will be all that she will venture on, but in a short time, if all goes well, she will jump a yard to the outstretched fist, then fly five yards, and a very few days later she will be coming fifty yards or more without a moment's hesitation. During all these trial flights any tendency to stray will be checked by a fishing-line tied to the ends of her jesses.

If she now shows by her attitude that she is no longer worried by the various sights and sounds of the countryside, which so terrified her at first, she may be trusted loose.

The instinct to kill is so strongly implanted in a Goshawk that little or nothing in the way of "entering" the hawk to her quarry is required. If she is in proper order, well tamed or "manned," coming readily long distances to the fist, and really keen, she will probably start at the first live rabbit that she sees, if it gets up close enough to her, and though she may miss the first one or two from inexperience, if she tries hard enough, and the rabbit is far enough from cover, she will very soon make a kill.

Goshawks are chiefly flown at pheasants, partridges, rabbits, and hares. Young partridges and pheasant poults succumb fairly easily, but old partridges and pheasants, which are strong on the wing, and generally take care to give themselves longer slips, are quite a different proposition, and will generally make good their escape, being as fast, or faster, than the hawk once they are really under way. In the case of pheasants, also, the flight is not without its dangers, as a hawk that is used to them will, even when outdistanced, fly on behind over several fields on the off-chance—quite a good chance, too—of grabbing the pheasant when it finally decides to come down into a covert, and slows up to do so, or when, having gained what it imagines is safety, it trusts to its legs, forgetful of the fact that the Goshawk is a woodland bird, no bigger, and decidedly quicker than itself. The danger of such flights is, firstly, that the hawk may be at least temporarily lost, the end, and possibly even the direction of the flight, being out of sight, and secondly, that she may encounter a hostile gamekeeper on a neighbouring shoot, while after or on the quarry, long before the assistance of the falconer can be forthcoming. I never fly my female Goshawk at feathered quarry for these reasons. An additional deterrent is that a Goshawk at all habituated to "feather" will lose her enthusiasm for "fur," which is, in comparison, so much more difficult to master when caught, and may refuse to tackle, or even to look at, anything as strong and troublesome as a full-grown hare.

It will be gathered from the above that the trained Goshawk is by no means a brilliant performer at feathered quarry, lacking as it does in its trained state the advantages of elevation and surprise which it enjoys when wild. The uninitiated not only expect Kestrels to take wild duck and rabbits, but expect a Goshawk, or any hawk for that matter, to pursue and capture some rook or wood-pigeon flying high over a distant wood half a mile or more away, and are quite hurt and disappointed when the falconer declines to throw off his hawk at it. Every falconer and every ornithologist will, of course, appreciate the absurdity of even contemplating such a flight, which, besides being for all practical purposes a physical impossibility, is repugnant to every instinct of the short-winged hawk, which "flies by policie," as the old books have it, or, in modern parlance, is a typical "smash and grab" raider.

The best quarry for a female Goshawk, as far as "filling the bag" is concerned, is the rabbit, which has the additional advantages of being plentiful, edible, and vermin. Unusually strong and plucky males can also cope with a full-grown rabbit, which weighs 3½ lb. or so, but most males either refuse, or fail to hold them. The extra size and weight of the female enables her to hold the strongest rabbits with comparative ease once she has them by the head.

There are three methods of obtaining flights at a rabbit. The first and easiest is to walk in line over rough pasture where they are known, or suspected to be lying out, and put them out of their seats. The second is "hedge-whacking," or beating them with sticks out of the hedges. The third is ferreting.

Flying rabbits out of their seats is the easiest. The seats are very often some way from cover, and the rabbits often sit very tight, and so give a close slip. They may even be spotted in their seats, and so enable the falconer to adjust the length of the slip according to the distance of the seat from cover, the capabilities of his hawk, and his own ideas of sportsmanship. An experienced hawk will often get a rabbit pushed out inadvertently by the falconer's foot before it has gone more than three or four yards.

Let us suppose the rabbit does not sit as tight as all that, but gets up while we are still some ten yards off. We are lucky if we see it at once, and so are ready to slip the hawk the next instant as she flings herself from the fist in pursuit. The rabbit is by now in full career some twenty yards off, and going all out: by comparison the hawk seems to be flapping along in a rather slow and wavering fashion, and it is quite surprising to notice that she has already gained considerably on the rabbit, and is, in fact, fast overhauling him as she flies in his wake only a few feet above the ground. The rabbit suddenly changes his mind, as if conscious of impending doom, and decides to make for the side hedge instead of the bury at the end of the field, but the hawk is an old hand, and swings round, with wide-spread tail, without a second's delay, to follow the new direction, flattens out into a glide, and, before you realize she can have reached it, she has swept down and into the rabbit and struck it hard with one foot on its hindquarters, immediately fastening the other foot on the head or neck. The rabbit is a strong one, and going full tilt, though not much more than half as fast as the hawk, and the result of the impact is that rabbit and hawk go head over heels in a somersault. The onlookers catch a glimpse of a flash of white as the rabbit goes over, the hawk secures its grip on the rabbit's head and proceeds to hold it motionless, and to all intents paralyzed, in its fearful grip, till the falconer comes up. The rabbit's neck is promptly broken by the latter, and the hawk rewarded with the brains before being picked up in readiness for the next flight.

It is, perhaps, needless to add that the popular notion of the hawk being a sort of winged retriever, and bringing back the quarry to lay at the feet of its master, though touching, is quite erroneous. No hawk will do, or can be expected to do, anything of the sort, and in the case of a Goshawk and a rabbit it is physically impossible as well. A Goshawk weighing two pounds or so cannot be expected to lift a rabbit weighing, say, three pounds from the ground.

All flights, of course, are not so simple and straightforward as the one described. In really open country, such as downland, slips may be anything up to 100 or even 200 yards, the governing factor in every case being more the distance of the rabbit from cover than the distance of the hawk from the rabbit; but very long slips are often not successful with a young hawk, as the rabbit has time to see it coming and think out a plan of action, and by skilful dodging and doubling may throw out the hawk till cover is reached, or she gives up the chase in disgust.

"Hedge-whacking" calls for rather more skill from the hawk and falconer, and rather less skill from the rabbit. The hawk must be very quick off the mark and make the most of her opportunities, as the rabbit may only run a little way before turning back into the hedge: and the falconer must always be ready to slip the hawk, and yet constantly hold her back, because the rabbit has not yet "broken" properly. A premature slip will only land the hawk in the hedge and allow the rabbit to leave it with impunity.

Two hawks, one on each side of the hedge, form a deadly combination, but they should never be slipped at the same rabbit, as the unsuccessful hawk will rush in to claim a share of the victim, the victor will disengage its claws in order to defend its prize, if need be with its life, and the "prize" will as often as not seize the opportunity of slipping out of the "ring" and making good its escape, leaving the rivals to fight it out. If neither hawk catches the rabbit an armistice is generally observed; but on one occasion when two female Goshawks were flying the same hare and one hawk passed underneath the other, the temptation proved irresistible; the latter promptly secured what it could get—it had never yet succeeded in catching a hare—and the two hawks descended to earth in a locked embrace, and had to be parted by their owners. If only one hawk is out, and the rabbit "breaks" from the wrong side of the hedge, the hawk can be thrown over the hedge, if it is not too tall, and is then almost sure to catch sight of the rabbit and go after it, though the falconer will not, of course, see much of the resulting flight.

Ferreting is a sure way of killing rabbits with a hawk if the bury is suitable, and the rabbits can be made to bolt. A big bury is undesirable, because the hawk will start the moment a rabbit appears, and the rabbit will take warning, pop down the next hole, a yard or so further on, and refuse to come out again. Consequently the rabbits must be hidden as much as possible from the hawk until they have bolted well clear of the bury. Small buries in small hedges are as good as anything: the rabbits often bolt out across the open field, and, probably because they are preoccupied with thoughts of the ferret, afford exceptionally easy flights; in fact my hawk has never missed one in such circumstances. Where the buries are of any size, and right out in the open, the falconer would be well advised, I think, to take his stand as far from the bury as possible—fifty yards, or further if there is no cover for some way. If he stands on or near the bury, my experience is that the hawk will put down every rabbit that thinks of bolting, and soon reduce things to a complete standstill. This is about the only occasion when the experiment of keeping the hawk hooded till the rabbit has bolted might be successfully tried.

Some hawks must be taught by experience to resist the temptation to catch the ferrets as well as the rabbits, but my own bird has, luckily, never shown any inclination to do so, though I often work her with a dark polecat ferret, and on one occasion she got not only a rabbit, but a full-grown rat out of the same bury. Goshawks, as has already been remarked, are phenomenally quick, and on another occasion my hawk got a rabbit bolted from a hole at my feet before it had gone a yard. I was engaged at the time in assisting an incredulous, but eventually grateful, professional rabbit-catcher, who had run out of nets. On a subsequent occasion, when the catcher and his ferrets and nets were accounting for four rabbits, two female Goshawks flying the adjoining fields during the same, or a shorter, period accounted for nine.

So far we have rather assumed that all flights at rabbits are successful. This, of course, is not so, though the more practice a hawk gets the more deadly she becomes. An unsuccessful flight may be due to the fault of the falconer or the hawk, or to the excellence of the rabbit. Needless to say, if the hawk is slipped at a rabbit which is too near a bury, a hedge, clump of brambles or gorse, or the edge of a thick wood, it will not, and cannot, get it, and as a series of fruitless flights disappoints and tires the hawk unnecessarily, it is as well to hold on to the jesses and not slip her unless there is a reasonable chance of a kill. The hawk herself is too excited to judge distances, and would, if permitted, fly at a rabbit 50 or 100 yards from her, and only one yard from impenetrable cover.

If the falconer has failed to slip the hawk till after she has already bated from the fist, her start will be severely handicapped, and if the rabbit had not far to go it may make just the difference between hit and miss. Then again, there are slips and slips: the easiest are those in which the rabbit is running straight away from the falconer; cross-shots are harder, and often baffle an inexperienced hawk, which does not anticipate the rabbit's direction: this a more experienced hawk will sometimes do, and, accordingly, smack into the rabbit broadside on instead of losing valuable seconds by slavishly following its tail. Head-on slips are the hardest of all, and, in fact, if the hawk succeeds at all it will probably be after missing and turning round, and having a second shot in the normal way.

A young hawk will often make quite a habit of missing even easy rabbits with the first shot, and getting them with the second, if they have not yet reached cover. Sometimes, also, a young and inexperienced hawk will catch the rabbit, but fail to hold it, not having yet learned the vital importance of the grip on the head. Sometimes the well-timed doubling of the rabbit will throw the hawk out till the rabbit has reached cover, though it must be remembered in this connection that a good hawk makes a bad rabbit, and vice versa: in other words, the speed and certainty of the hawk may never give the rabbit a chance of dodging in the one case, while in the other the slackness of the pursuit may allow the rabbit to double again and again, till the hawk is completely thrown out.

The rabbit may also owe its safety to atmospheric conditions. Poor visibility, resulting from fog or the approach of darkness, rain, and wind, all hamper the hawk more than the rabbit. More destructive of good flying than any of these, though it might not be suspected, is wet grass. After a hawk has killed a rabbit or two in drenched or dewy grass, the primaries and tail-feathers become laden with moisture, and not only greatly reduce her speed—she is still amply fast enough to catch a straight rabbit—but interfere with the momentum of her gliding, and generally upset her calculations, so that she misjudges her distance and her speed, and loses the power to cope successfully with a dodging rabbit.

The slope of the ground is also an important factor, and, if it is at all pronounced, care should be taken to ensure a down-hill slip. The short-winged hawk is poor at mounting rapidly into the air by its own unaided efforts, and as flying up-hill is, in effect, the same as mounting, its speed is in these circumstances materially reduced, and, as always, loss of speed involves loss of efficiency as well. As we shall see when we deal more especially with hare-hawking, pace is more than half the battle. It is very noticeable when flying feathered quarry, such as a partridge, that if the partridge suddenly rises rapidly into the air in order, say, to clear a wood or a belt of trees, the hawk, which may have looked a moment before as if it were on the point of making a kill, immediately loses ground, and not infrequently abandons the chase altogether.

Sometimes a miss or a series of misses is explained by the condition of the hawk. If a hawk is allowed to get too thin or too fat it will begin to miss its rabbits, and the symptoms, curiously enough, will be the same in each case—slow, unenthusiastic flying, with an inclination to give up the chase on the slightest provocation ; flying up into a tree instead of putting on that final spurt and crashing into a bramble after a rabbit, which might still be caught with a bit of luck ; or sitting on the ground in the open watching a dodging rabbit make an unexpected get-away across a hundred yards of open country.

After an unsuccessful flight, the hawk will either remain on the ground in the open where the rabbit left her—and accordingly earn a black mark for her want of perseverance—or be found in the middle of the hedge or bramble through which the rabbit just managed to escape—if, indeed, it did escape, for very often the last split second proves fatal, and the hawk will be found to have the rabbit in her foot after all. Or if the rabbit was never really pressed by the hawk, but gained cover some way ahead of her, she will almost certainly have flown up into the branches of a tree. This, especially if the tree be a tall one, is the acid test of her training. The falconer holds out his fist with an attractive piece of food on it, and if the hawk is in proper order she should be gliding down to it at once, or a very few seconds later. Should it turn out to be a matter of minutes rather than seconds, recourse must be had to the lure—a dead rabbit or a stuffed imitation of one on a string—and this, especially if twitched about in a life-like manner, is sure to fetch her down at once. If it does not, the falconer stands convicted of flying a hawk which must have shown obvious symptoms of being unfit to fly before it was taken out, and is condemned to dance attendance on her till hunger or caprice bring her down.

So far I have dealt only with one method of hawking, namely, flying the hawk from the fist at quarry actually seen by the falconer, and calling the hawk back to the fist after an unsuccessful flight, before going in search of fresh quarry. There is another method in use which is even more deadly, but has disadvantages which, in my opinion, far outweigh the advantages of an increased and more varied bag. The method consists in leaving the initiative, as far as possible, to the hawk—not holding her back when she wants to fly, even though the falconer has not sighted anything; and, when she goes into a tree, leaving her there, while beating about in the surrounding undergrowth in the hope of disturbing something that *she* will be able to see from her observation-post, even if the beaters cannot do so.

The chief advantage accruing from the first procedure, which practically amounts to not holding the jesses of the hawk at all, once suitable country has been reached, but letting the hawk fly when she will, is that the hawk will always get a good, instead of a retarded, start from the fist, and will often fly and take quarry that the falconer himself would never have seen at all. On the other hand, though these flights, if successful, add to the size of the bag, they add very little to the sport actually shown, the quarry being, as a rule, almost inevitably out of sight during the whole or greater part of the time.

A further disadvantage is that all power to select the quarry to be flown vanishes, and the catch may prove to be a running pheasant caught against wire netting, while on the falconer's unlucky day terrified squawks from a neighbouring field or farmyard may indicate a major catastrophe to one of his neighbour's chickens, which experience shows is sure to have been a prize-winner, and the apple of its owner's eye!

Very often, however, the hawk, like the falconer, has seen nothing, but merely grown restive, and so flown off into a neighbouring or distant tree. It is here that the second part of the method is adopted—that of beating the surrounding undergrowth—and there can be no question but that a Goshawk in a tree is very deadly. The greatly increased impetus gained by her elevation will enable her to account for pheasants, partridges, or duck flushed under her before they have had a chance of accelerating to their maximum speed, and many a rabbit slinking away through the undergrowth undetected by the beaters is cut off as the result of a sudden nose-dive from above.

On the other hand, these flights are generally poor from the spectacular point of view; often little or nothing is seen of the flight at all, and at times the hawk, from her commanding position, spies a prospective victim a field or so away, and, without a moment's hesitation, deserts her beaters, who may often consider themselves lucky if they are in time even to see which way she went.

Finally, a hawk allowed to take stand in trees like this will seldom or never come back to the fist, and, if no flight can be provided for her, the falconer will have to lure her down, and the lure will have to be a really attractive one, almost as good as the real live quarry she expects, or she will refuse even that. The margin of safety is in consequence much reduced, and, in fact, a hawk flown like this is encouraged to become dangerously like a wild hawk in her habits; control becomes precarious, and the slightest accident or error of judgment may spell disaster.

And now for hare-hawking. The difference between rabbit-hawking and hare-hawking is the difference between milk and cream. One gets much less of it, but it is much more worth having. The size, strength, and cunning of the quarry make a full-grown hare a well-matched adversary for any female Goshawk. In fact, just as most male Goshawks will not tackle a full-grown rabbit, so the average female Goshawk will not tackle a full-grown hare. Some of them will not start from the fist when a hare rises from its form; others will fly after the hare, and approach more or less closely to it as if to make sure that it is not a rabbit, and will then turn tail and fly off into a tree. If you have a hawk that will tackle them from the first with the necessary courage, you can consider yourself exceptionally lucky.

I have had this stroke of luck, and the following remarks will be based chiefly on my experiences with my own hawk. A good hare weighs about 7 lb., a good female Goshawk in flying order about 2½ lb.; so that there is some excuse for thinking that the capture of the former by the latter is in the nature of an impossibility. And when my hawk was first trained, though she repeatedly tackled hares with varying degrees of enthusiasm or diffidence, for a long time she never succeeded in holding one. After a tussle lasting a second or two the hare would break away, and leave the hawk sitting on the ground. However, familiarity appearing to breed self-confidence, the struggles grew more exciting and more prolonged, and at last, with the adventitious aid of a hedge and ditch, the hawk achieved her first kill, and a 5-lb. hare was carried home in triumph. After that it was chiefly a question of experience; the hawk is almost certain to persevere once she has learned that this formidable-looking beast can be made to succumb to her attacks.

It will have been gathered from the above that the whole technique of hare-hawking is very different from that of rabbit-hawking, and a hawk will not succeed in this flight until she has learned from experience at least some of these differences. In the first place, if the hawk plants the first foot on the hare's loins, as she is accustomed to do with rabbits, she will never be able to get her other foot on to the hare's head, simply because the distance to be bridged is too great: the result will be that the hawk will be kicked off and left on the ground. On the other hand, if the hawk strikes both feet into the hare's head, the chances are that the hare, if a big one, will leap a yard or more into the air two or three times in succession, and follow this up, if necessary, with a somersault or two on the ground, and so dislodge an inexperienced and not unnaturally somewhat frightened hawk. Success generally seems to be the outcome of stopping the hare first with a powerful tackle, and then holding it with one or both feet by the nose like a bull. Once this grip has been established the hare appears to be powerless. Occasionally a hawk manages to hold even a 7-lb. hare by a terrific grip with a foot on each hind-quarter. My hawk has done so once, and a friend's hawk I think twice, but it is somewhat surprising that the hare should be rendered incapable of further movement in these circumstances.

The flight at a hare is so difficult that every possible advantage must be given to the hawk. The closer the slip the better, and this for two reasons. The hawk will reach the hare comparatively quickly, and so have all its reserves of energy available for the fray instead of being "blown" by a long initial flight; and secondly, the hare will have less time and opportunity to bring his cunning into play. If the hare can be marked down in its form for a young hawk, so much the better. There should be little or no wind, for if there is a strong wind the hare will probably race up-wind the moment it realizes that it is being pursued, and leave the hawk behind. As regards ground, plough is best, as it hinders the hare and so assists the hawk; then long grass, the coarser the better. Short grass is worst, because it increases the speed of the hare and facilitates the turns and doubles at which the hare is naturally so adept. In fact my hawk has not yet succeeded in catching and holding a hare on really short grass, as in every case, after the first unsuccessful grip, the hare has doubled so suddenly and so repeatedly that the hawk has failed even to touch it again, and has given up in disgust. Enclosed country is also, I think, easier than very open country. In the former the hare has his own special runs and meuses, and will, as a rule, make straight for them, despite the hawk. In open country one direction is as good as another, and the hare will determine his line with one eye on the hawk, instead of trying to keep to his regular "point to point" course.

Hilly country is undesirable, as the hare is almost sure to run up hill, and the only possibilities will be a tricky head-on slip if the falconer begins above the hare, or an up-hill slip if he does not, and the hard tackle which speed alone can give is of crucial importance when flying hares.

We have still to deal with the tactics of pursuer and pursued during the actual flight. The usual ruse of the hare, if he adopts one, is the well known right-angled or acute-angled turn. And, as already pointed out, if executed at the last possible moment, with the necessary speed and precision, and repeated three or four times in rapid succession, it appears to baffle the hawk completely.

Another trick that is sometimes successfully employed by the hare is the "high jump." The hare waits till the hawk is within striking distance, and then leaps high into the air, allowing the hawk to pass underneath it. Curiously enough, the only time this manœuvre was tried on my hawk it signally failed of its object. When the hawk was within striking distance, the hare, without warning, stopped dead, then kicked itself up in a prodigious leap five feet or so into the air. The hawk, however, instead of hurling herself at the spot where the stationary hare had been a second before, as she was no doubt intended to do, and thus finding herself stranded, empty-handed, on the ground, while the hare made off in a new direction, threw up into the air some fifteen or twenty feet, so that both hawk and hare were in the air together; and, the moment the hare landed, heeled over, and came crashing down on to it before it had time to find its legs and make a fresh start.

So much for theory, much of it grounded, I admit, on insufficient evidence. Now for a description of an actual flight at a hare, which took place on the first afternoon I went out with the hawk this year. We were walking over a small piece of plough in the corner of a fairly large field, rather as a matter of form than in the expectation of putting up a hare, which is something of a rarity on this particular farm. Suddenly one of the "field" spotted a hare crouching in a scrape in the plough, and managed to withdraw and tell me without having disturbed it. While the rest of the "field" proceeded to line the two neighbouring hedges, I quickly brought the hawk round till we were between the hare and the nearest hedge. I waited till I too had seen the hare, and then proceeded to walk it up, ready to slip the hawk at a moment's notice.

When I was about three yards off, the hare got up, and, without a second's hesitation, the hawk left the fist in pursuit. The battle was on! After this ideal start the hawk reached the hare comparatively quickly, and struck it hard with one foot across the loins, but before she could improve her position the hare had kicked her off and gone on, with the hawk once more in hot pursuit. Another impact, even harder, followed by a confused medley of wings and fur, and the hare was down! In fact, it seemed to have taken the final count, and the cheers of the "field" were ringing out, when, with a violent convulsion, it shook itself free again and turned back for the hedge. The hawk, being left off her balance on the plough, made a slow and laboured start, and although she caught up with the hare for the third time, had so little way on that the impact was feeble, and the hare continued its course unscathed, except for the loss of a tuft of fur. The hawk thereupon spread her wings and sailed up into the air, and it looked for one anxious moment as if she had given up the unequal contest and intended to rest herself in a neighbouring tree. Suddenly, however, she wheeled round and, turning over from her new elevation, she came down with an audible swish after the fast-retreating hare, and swept into it with irresistible force in the nick of time, just as it was about to negotiate the meuse through the hedge, which would have secured it temporary or even permanent respite; and when I arrived on the scene the hawk was on top of it in the ditch, with the daggers of one foot firmly imbedded in the hare's head. As a reward for having flown with such courage and perseverance, the hawk was then fed up on the quarry, and not flown again that afternoon.

A few statistics about this particular female Goshawk (a Norwegian) will illustrate the sort of thing these birds can do. She was trained and flown loose sixteen days after she was first taken in hand. In the next ten days (in exceptionally favourable country) she accounted for forty rabbits. By the end of the year, four months later, during which she was flown only at week-ends, her bag had risen to ninety-three rabbits, six hares, and a rat. The biggest hare weighed over 7 lb. On her best days she will account for something like five out of every six rabbits at which she is slipped. On the last morning of last year, when I wanted five more head of game to complete the hawk's century, three-quarters of an hour proved sufficient for my purpose, as by then she had had six slips, admittedly none of them difficult ones, and got the five rabbits required.

It will be seen from the above that a female Goshawk is popular with the housekeeper as well as with the falconer, and even when flown only at the week-ends it is seldom that she does not manage to make some contribution to the larder, and, of course, catches far more than she could eat herself. The most I have ever taken in an afternoon with my hawk is nine rabbits, but on that particular occasion I was single-handed and obliged to stop, not because the hawk was tired, but because I was, having had to carry the nine rabbits in question, in addition to the ordinary paraphernalia of the falconer, and that in hilly country under an August sun!

The Goshawk, like other birds of prey, is fed only on raw meat. Nothing is better than rabbit, with the fur to form castings, and my hawk supplies herself and a male Goshawk with enough to feed them both for the better half of the week, quite apart from any contributions to the larder. In the absence of rabbit, rats, chicken-heads, and necks, or beef can be resorted to, and roughly in that order. Butcher's meat should be avoided as a rule, or at least not given at all regularly.

In case anything I have said may lead anyone to conclude that the sport of hawking with a short-winged hawk is easier than it really is, I shall end by recapitulating a few of the difficulties and dangers with which the falconer is confronted.

Loss of the hawk is, of course, the final disaster, and it may arise in an infinity of ways. Mechanical breakdown, such as the snapping of jesses, swivel, or leash, may release the hawk at an inopportune moment, and it may have time to resume its wild life before it can be traced and recovered. A lesser danger is that a fat and bumptious hawk may refuse to come back to the fist or lure—lesser because these are signs of incipient disobedience, which will put the experienced falconer on his guard. Another danger is that a hawk, while flying its quarry, may come within range of the "man with the gun," either a gamekeeper on a neighbouring shoot, or even a cottager, who knows a hawk when he sees one. I have myself been within measurable distance of losing a trained hawk through each of these gentlemen.

A hawk may also be lost by flying its quarry out of sight and sound of the bells; but, as has already been pointed out, it is not the nature of a short-winged hawk to fly far or persevere unduly in the chase, and this mishap is only likely to result in practice from a stern chase after a pheasant, which is an undesirable quarry for this very reason.

Lastly, there is disease to be feared. A Goshawk is alleged to be hardy as hawks go; but this must be regarded only as increasing the margin of safety, not as excusing the taking of unnecessary or avoidable risks. A hawk must be flown without any internal fat. The consequence of this is that the hawk, though perfectly healthy, is more susceptible to any sudden change than it would be if it had a reserve of fat upon which to fall back in an emergency, and if it once falls seriously ill the chances are distinctly against recovery.

However, these difficulties and dangers are not insurmountable, and as the result of a combination of luck and care you may reasonably hope to find yourself, as I do now, in the happy position of having completed your hawk's first season without mishap; and having "cast her into the mews" to moult her feathers, with a score of a century odd to her credit, can look forward with every confidence to a second season with greater triumphs still in store.

Lord Rothschild exhibited a mounted specimen of *Casuarius unappendiculatus rufotinctus*, together with a drawing and photographs from life, and an oviduct egg. He said this is the finest example of this form yet imported; he obtained it when immature (plumage mixed with brown feathers), being probably four years old, and it had lived in the Zoological Gardens for over ten years, and had died egg-bound by the egg exhibited. This bird came from the neighbourhood of Humboldt Bay, but the subspecies extended westward all over Dutch New Guinea except the Arfak Peninsula, where it is replaced by *C. u. rothschildi*. How far eastward it extends is unknown, but it is replaced round Huon Gulf by *C. u. aurantiacus*.

The typical form of this species, *Casuarius unappendiculatus unappendiculatus*, is confined to the Island of Salwatti.

Dr. Ernst Mayr and other Continental ornithologists have considered *C. u. rufotinctus* to be identical with Count Salvadori's *C. u. occipitalis*, but until we get living specimens from the Island of Jobi this must remain more than doubtful.

The only known examples of *C. u. occipitalis* are the two skins (now mounted) in the Paris Museum, brought home by Laglaize, one of which is the type of *Casuarius laglaizei*.

The egg taken from the oviduct, and now exhibited, is interesting as showing how very shortly before expulsion the final colouring takes place.

The drawing and photographs were taken from life by H. Grönvold and C. Millward.

Lord Rothschild also exhibited a curious variety of a Blackbird picked up dead at Tring Park, and said that last year three such birds were hatched out in one nest in the garden at Tring, and two of these were still about. The brown feathers look like the transient youthful brown feathers often present in the Corvidæ, but the two living Blackbirds, now thirteen or fourteen months old, still show them.

Dr. G. Carmichael Low showed, on behalf of Dr. J. M. Harrison, a stuffed specimen of a Yellowshank (*Tringa flavipes*) which was shot in Lincolnshire on September 15, 1932, this being the first record of that species for the county. The occurrence, he said, had already been reported in 'British Birds' (xxvi. 1933, p. 338) by Mr. G. H. Caton Haigh. The latter recorded that the bird was shot on September 15, 1932, by Mr. J. H. Stubbs at his Plover decoy-pool in Tetney Cow Marsh. The bird was very tame and had a strange note. Caton Haigh did not hear of the occurrence for some days, and did not see the bird in the flesh. When he saw it at the Louth bird-stuffers he noted that it had long thin legs and a noticeably slender bill. The legs were pale yellow and the bill black. The bird was very badly stuffed, but has now been remounted and nicely set up by Dr. Harrison, who recently purchased it from Mr. Stubbs. There have been eight records at least of the occurrence of this American species in the British Isles, and it may be useful for members of the Club to have these in detail. In my 'Literature of the Charadriiformes,' ed. ii. 1931, p. 220, these are given as follows :—

1. *Tringa flavipes*, Yellow-legs. One obtained, Mission, Nottinghamshire, north-east of Bawtry, before 1855 : Yarrell, 'British Birds' (ed. iv.), iii. 1882–1885, p. 480. One ? obtained : 'Naturalist,' 1858. No substantiating evidence : Yarrell, *loc. cit.*
2. *Tringa flavipes*. One obtained near Marazion, about two miles from Penzance, September 12, 1871 : Rodd, 'Zoologist,' 1871, p. 2807.
3. *Tringa flavipes*. One obtained, Fair Isle, Shetlands : W. Eagle Clarke, Ann. Scott. Nat. Hist. 1911, p. 53.
4. } *Tringa flavipes*. Two obtained, ♂ and ♀, Camber, Sussex, August 15,
5. } 1914 : Ford-Lindsay, 'British Birds,' viii. 1914, pp. 121–122.
6. *Tringa flavipes*. One obtained, Tresco, Scilly Isles, September 2, 1920 : Langton, Bull. B. O. C. xli. 1920, pp. 26–27.
7. *Tringa flavipes*. One obtained, West Mersea, August 8, 1921 ; in Southend Museum : Thompson, Essex Nat. xx. 1922, p. 46, fig. 1.
8. *Tringa flavipes*. One seen, Tresco, Scilly Isles, August 19, 1921 : A. A. Dorrien-Smith, Ibis, 1927, p. 782.

The bird shown to-night, therefore, makes

9. *Tringa flavipes*. One obtained, Tetney Cow Marsh, Lincolnshire, September 15, 1932 : G. H. Caton Haigh, 'British Birds,' xxvi. 1933, p. 338. Exhibition of specimen, Bull. B.O.C. liii, 1933, p. 239.

Dr. Carmichael Low also showed a series of picture post-cards of Texel birds. These were from photographs taken by Mr. Burdet, the well known Dutch ornithologist. Dr. Low said he had just come back from a week's trip to Texel, and that, if time permitted, in the next Session he would give a description of this wonderful bird island. Here Redshanks (*Tringa totanus totanus*), Black-tailed Godwits (*Limosa l. limosa*), Ruffs (*Philomachus pugnax*), Kentish Plovers (*Charadrius a. alexandrinus*), Oyster-catchers (*Hæmatopus ostralegus*), Avocets (*Recurvirostra avosetta*), Black-headed Gulls (*Larus r. ridibundus*), Common Terns (*Sterna h. hirundo*), etc., were breeding in profusion—so much so that in some of the meadows one had to take special precautions to avoid treading on the eggs.

The Hon. Guy Charteris showed a series of eggs from Hungary :—

1. Five clutches of eggs of the River-Warbler (*Locustella fluviatilis*).
2. Some interesting types of Cuckoos' eggs, laid in nests of the Great Reed-Warbler (*Acrocephalus a. arundinaceus*).
3. Two clutches of eggs of the Short-toed Lark (*Calandrella b. brachydactila*), which, as far as he knew, had not been recorded as breeding in Hungary before.

Mr. Jack Vincent forwarded a description of yet another new subspecies which had been noticed among the Portuguese East African collection :—

Micropus apus lawsonæ, subsp. nov.

The collection brought back from Portuguese East Africa includes four breeding Swifts from Southern Nyasaland, and as it has been brought to my notice that these are not applicable to existing forms I am compelled to describe them as new.

Description.—Quite unlike the small and pale *M. a. shelleyi*, which has an unusual characteristic in the light-coloured wing-coverts, contrasting strongly with the dark primaries.

Differs from *M. a. barbatus* in being considerably darker throughout, particularly on the underside, which is much blacker, and not brownish, in general hue, although it possesses a similarly distinct barring below, due to the whitish edges to the feathers. The throat is somewhat whiter than *M. a. barbatus*, and shows less striation. Everything points to the Nyasaland birds being an intermediate form between *M. a. shelleyi* and *M. a. barbatus*, for whereas the former, of which ten specimens were examined, has a wing averaging 154 mm. (with a maximum of 160 and a minimum of 146 mm.), and the latter, of which ten specimens were also examined, has a wing averaging 179 mm. (maximum 187, minimum 165 mm.), my birds have a wing which averages 171 mm. (with maximum 173 and minimum 168 mm.). Generally speaking, these Nyasaland birds approach quite closely to *M. a. balstoni* and *M. a. mayottensis* in their dark coloration, but the island forms are even blacker, and show a smaller wing-measurement.

Type.—No. 2168, an adult female, shot by myself at Palombe, in the Mlanje district of Southern Nyasaland, 15·50° S., 35·40° E., at 2300 feet altitude, on September 6, 1932. Two eggs yolking up in the ovary. Brit. Mus. Reg. no. 1933.3.1.25.

Measurements of Type.—Total length in the flesh 187; wing 173; tail 76 mm.

Remarks.—The measurements which I have quoted in the description amply justify this separation, and although I am not entirely in favour of describing intermediate forms, for which $\gtrless$ signs are preferable, in this case an exception is necessary, as it is a dark race lying between two paler ones, and the intergradation of colour is inconsistent with that expected. The race has been named as a compliment to Miss M. Lawson, of the Bird Room, British Museum.

Mr. H. F. Witherby pointed out that three of the nestling Waders referred to by Dr. C. B. Ticehurst in the last 'Bulletin' (liii. 1933, pp. 205–6) as being hitherto undescribed in English literature, so far as he knew, had already been described, and also figured, as follows:—

Oxyechus [*Charadrius*] *vociferus* W. Rowan, Brit. Birds, xx. June 1926, pl. ii. and p. 9.

Erolia [*Ereunetes*] *pusilla* W. Rowan, *t. c.* p. 145 (description) and p. 216 (figure).

Tringa melanoleuca, *t. c.* xxiii., figured by W. Rowan (pl. iv.) and described by H. F. Witherby (p. 17) *.

Capt. C. H. B. GRANT and Mr. C. W. MACKWORTH-PRAED sent the following notes :—

1. The exact Type-locality of the Maccoa Duck, ERISMATURA MACCOA Eyton, and the White-backed Duck, THALASSORNIS LEUCONOTUS Eyton.

Both these species were described by Eyton, Monogr. Anat. 1838, pp. 168 and 169, and were founded on Dr. A. Smith, Cat. S. Afr. Mus. 1837, p. 37. Although Sclater, in Fauna S. Afr. iv. 1906, pp. 151 and 154, gives the exact type-locality, he only quotes South Africa in his Syst. Av. Æthiop. i. 1924, p. 40. The exact locality is to be found in Smith, Illust. Zool. S. Afr. ii. 1847, pl. 108, and 1846, pl. 107, and is given for both these ducks, as Verloren Vlei, Piquetberg Division, Cape Colony.

2. The exact Type-locality of the Cape Shoveler, SPATULA CAPENSIS (Eyton), and a character by which the females of this species may be distinguished from the females of the European Shoveler, SPATULA CLYPEATA (Linnaeus).

Eyton, Monogr. Anat. 1838, p. 135, described this species on specimens exhibited in the South African Museum, and adopted Smith's name, *Rhynchaspis capensis*, Cat. S. Afr. Mus. 1837, p. 36, but no locality is given, though it is presumed the locality was South Africa, and this has been used by all authors, including Sclater, Syst. Av. Æthiop. i. 1924, p. 41.

In his Illust. Zool. S. Afr. ii., Aves, 1844, pl. 98, Smith gives Cape District, followed by Worcester, and Uitenhage. As this is the first reference to a definite locality, the correct type-locality for *Spatula capensis* (Eyton) is the Cape District, Cape Colony, South Africa.

The following is a character which appears to be quite constant, and by which the females of both species can be at once distinguished, and which also holds good for the males and young birds of both sexes :—

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* [The chick of *Heteroscelus* [*Tringa*] *incanus* has also been described and figured (Murie, 'Auk,' xli. 1924, p. 234, pl. xviii.).—ED.]

Spatula clypeata.—Shafts of primary feathers white.

Spatula capensis.—Shafts of primary feathers brown.

3. A more definite Type-locality for the Abyssinian Yellow-billed Duck, ANAS UNDULATA RUPPELLI Blyth.

Blyth, Journ. Asiat. Soc. Bengal, xxiv. 1855, p. 265, described this race from a specimen received from Rüppell, and which was undoubtedly collected by him during his travels in North-East Africa. Blyth gives the locality as Central Africa.

Other references to localities are :—

1864. Jerdon, Bds. of Ind. iii. 1864, p. 800 : North Africa.
1872. Giebel, Thes. Orn. i. 1872, p. 361 : Africa.
1900–1. Reichenow, Vög. Afr. i. 1900–1, p. 113 ; only includes name as synonym.
1904. Neumann, J. f. Ornith. 1904, p. 327 : inner North-East Africa (p. 328, last line).

We know that Rüppell travelled only in Egypt, Nubia, Red Sea coast, Arabia, and Abyssinia between 1817 and 1833, and as Blyth gives Central Africa, the type (which appears to have been lost) must have come from Nubia (eastern Sudan), the Red Sea Coast, or Abyssinia.

As this bird does not occur in Egypt, and is most commonly found in Abyssinia, and less so, or is non-existent, in the Sudan, we suggest that the type-locality of *Anas undulata ruppelli* Blyth be designated as Abyssinia.

4. On the Status of ANAS SPARSA LEUCOSTIGMA Rüppell.

Sclater, Syst. Av. Æthiop. i. 1924, p. 42, and Bannerman, Bds. Trop. W. Afr. i. 1930, p. 139 (who gives the bill as pinkish), recognize only one form of the African Black Duck, but Chapin, Bds. Belg. Congo, i. 1932, p. 496, recognizes a southern and a northern form, having the bill " dark lead blue," as opposed to " much paler " in more northern birds.

This has caused us to examine all the material in the British Museum collection, and we cannot see any really distinctive difference in this respect in the dried skins, and the type of *Anas sparsa* Eyton, from South Africa, has a distinct pale bill with a brown patch on the culmen and a brown nail, which were, no doubt, black in life. Many other specimens from southern Africa have pale bills, all with distinct black patches on the culmen, varying in size individually, and black nails; but grey, especially pale grey, might just as easily completely fade, as would yellow or pink, and in dried skins the soft parts do have quite a different appearance and colour to what they exhibited during life.

Eyton, in the original description, gives the bill as lead-coloured, and Sclater, Fauna S. Afr. iv. 1906, p. 136, gives it as slate. The colours recorded on the labels of eleven specimens from southern Africa are:—Lavender-grey, slaty brown, slaty blue, purplish-blue, pinkish-slaty, livid blue, pale purplish livid, livid, light blue-grey, and blue-grey.

Rüppell, in the original description, gives the bill as yellow, and van Someren, Journ. East Africa and Uganda Nat. Hist. Soc. nos. 38 & 39, 1930, p. 51, gives the bill as pink. The colours recorded on five specimens from eastern Africa are:—Yellow ochre; yellow; pinkish-white, brown at base, greenish-horn at tip; pink at base, rest horn; and greyish white on the one specimen from the Cameroons.

Despite the appearance of the dried skins, and judging solely by the above colours of the bill as recorded by the various collectors, it does appear that the northern birds have no pale or slate coloration in the bill, but incline more to yellow or pink.

We therefore propose to follow Chapin and recognize two races of this Duck, as follows:—

ANAS SPARSA SPARSA Eyton.

Anas sparsa Eyton, Monogr. Anat. 1838, p. 142: South Africa.

Range.—Southern Africa, north to Angola, Nyasaland, and Portuguese East Africa.

ANAS SPARSA LEUCOSTIGMA Rüppell.

Anas leucostigma Rüppell, Syst. Ueb. Vög. N.-O. Afr. 1845, p. 130, pl. xlviii.: Abyssinia.

Range.—Eastern Africa from Abyssinia to Tanganyika Territory, western Africa, and the Belgian Congo.

5. The Occurrence of the Pintail, DAFILA ACUTA (Linnæus), and the Garganey, ANAS QUERQUEDULA Linnæus, in Tanganyika Territory.

Sclater, Syst. Av. Æthiop. i. 1924, pp. 43, 44, has given the range of both these Ducks as Tabora, in Tanganyika Territory, but as the specimens on which this record was based have not, as far as we know, been recorded in the literature, we consider it of interest to do so now :—

PINTAIL, ♀ ad.: Tabora, Tanganyika Territory, January 16, 1922 (*C. F. M. Swynnerton*). Brit. Mus. Reg. no. 1923.4.15.6.

GARGANEY, ♂ ad. in full eclipse: Tabora, Tanganyika Territory, January 1922 (*C. F. M. Swynnerton*). Brit. Mus. Reg. no. 1923.4.15·7.

A second occurrence of the Garganey in Tanganyika Territory has been recorded in the Bull. B. O. C. li. 1931, p. 127.

6. Further Notes on DEMIGRETTA SCHISTACEA, EGRETTA GARZETTA GARZETTA, EGRETTA GARZETTA DIMORPHA, and some Corrections.

Through the kindness of Dr. J. P. Chapin we have been enabled to examine the specimen of *Demigretta schistacea* (Amer. Mus. Nat. Hist. no. 265280) recorded on p. 433 of his 'Birds of the Belgian Congo,' i. 1932, and we are satisfied that it is a typical female in the grey phase of that species. This record extends the range from the Nile Valley to Lake Albert, and as the Nile also rises in Lake Victoria, we may expect to find that this Heron occurs on that lake.

The measurements of this bird are :—Wing 300, culmen 95, tarsus 112, depth of bill behind nasal orifice, 16 mm.

Dr. Finn Salomonsen has discovered another good subspecific character between the coloured forms of *E. g. garzetta* and *E. g. dimorpha* which he has very kindly allowed us to quote here :—

E. g. garzetta.—Feathers at base of lower mandible white.

E. g. dimorpha.—Feathers at base of lower mandible coloured.

Corrections.—In the Bull. B. O. C. liii. 1933, p. 191, line 27, *for* "blackish state" *read* "blackish slate"; line 32, *add* "Cape Verde Islands"; p. 192, line 16, *delete* "Cape Verde"; line 29, *delete* "Tanganyika Territory (Dar-es-Salaam)," and *read* "*Range.*—Madagascar."

7. A new Subspecies of the Rusty Bush-Lark, MIRAFRA RUFA Lynes.

In 'The Ibis,' 1924, p. 695, Lynes, under 56 *b. Mirafra rufa* (?), mentions two specimens he obtained in the region of Nahud, eastern Darfur, but did not name them definitely owing to lack of material. The data on the label of the male, which is 70 miles west of El Obeid, do not agree with that given by Lynes in 'The Ibis.'

Through the kindness of the Sudan Government Museum we have now been enabled to examine four more Larks from Delami and Um Dona in the Koalib area of the Dar Nuba, and which agree perfectly with Lynes's two skins. These very clearly show that Lynes's birds are not "aberrant individuals of *M. rufa*," but represent a new eastern race of *Mirafra rufa*, and we propose to name it:—

Mirafra rufa lynesi, subsp. nov.

Description.—In size and general appearance similar to *Mirafra rufa rufa* Lynes, but lacking the distinct black striping to the centres of the feathers of the head and mantle, thus giving the bird a more clear, rich rufous coloration; the wing-coverts are paler, and the general tone of the underparts is deeper, *i. e.*, slightly more rufous.

Measurements.—Wing 86, tail 62, culmen 13, tarsus 22 mm.

Distribution.—Kordofan.

Type.—In the British Museum. ♂ adult. Delami, Kordofan Province; collected by W. Ruttledge on July 13, 1927 (Sudan Government Museum, no. 3718). Brit. Mus. Reg. no. 1933.6.28.1.

Remarks.—Named in honour of Rear-Admiral Hubert Lynes, C.B., C.M.G., R.N. Presented by the Sudan Government.

Six specimens examined, as follows:—

♂ ad., 29. iii. 1922, 70 miles west of El Obeid, 2000 feet. Wing 85 mm. (Brit. Mus. Reg. no. 1922.12.8.1558.)

♀ ad., 24. iii. 1922, 20 miles west of Nahud, 2200 feet. Wing 82 mm. (Brit. Mus. Reg. no. 1922.12.8.1557.)

♂ ad., 13. vii. 1927, Delami, Kordofan Province. Wing 85 mm. (Sudan Government Museum, no. 3736.)

♂ ad., 13. vii. 1927, Delami, Kordofan Province. Wing 86 mm. (Sudan Government Museum, no. 3718.) Type.

♂ ad., 18. ix. 1927. Um Dona, Koalib, Kordofan Province. Wing 85 mm. (Sudan Government Museum, no. 4013.)

? ad., 2. ii. 1928. Delami, Kordofan Province. Wing 84 mm. (Sudan Government Museum, no. 4128.)

Distribution (of both races).—

Mirafra rufa rufa Lynes, Bull. B. O. C. xli. 1920, p. 15: Central Darfur, Anglo-Egyptian Sudan. (The type-specimen is labelled "Juga Juga," 15 miles E.N.E. of El Fasher.)

Range.—North and Central Darfur, from Juga Juga to Zalingei.

Mirafra rufa lynesi.

Range.—Kordofan, from 20 miles west of El Nahud to Delami and Um Dona in the Koalib area of Dar Nuba.

Capt. C. H. B. GRANT sent the following note:—

With reference to Mr. B. G. Harrison's paper in the Bull. B. O. C. liii. 1933, p. 102, on the Cowbirds of South America, I should like to invite attention to my paper in 'The Ibis,' 1912, p. 278, on the eggs and foster parents of the three species found in the Argentine.

Corrigenda to Volume LIII.

P. 114, line 2 from bottom of page, for *Orthotomus artrogularis* read *Orthotomus atrogularis.*

P. 202, line 5, for *Ieracidia berigora* read *Ieracidea berigora.*

P. 214, line 2 from bottom of page, *for* Stomness Bay *read* Stromness Bay.

NOTICES.

The next Meeting of the Club (the first of the new Session), will be held on Wednesday, October 11, 1933, at the Knightsbridge Hotel, Knightsbridge, S.W. 1. The Dinner at 7 p.m.

Members intending to dine are requested to inform the Hon. Secretary, Mr. C. W. Mackworth-Praed, 51 Onslow Gardens, London, S.W. 7.

ANNUAL GENERAL MEETING.

This will also be held at the Knightsbridge Hotel, Knightsbridge, S.W. 1, on Wednesday, October 11, 1933, at 5.45 p.m. An Agenda and Balance Sheet will be issued in September.

Members who wish to make any communication at the next Meeting of the Club must give notice to the Editor, Dr. G. Carmichael Low, 86 Brook Street, Grosvenor Square, W. 1, as soon as possible. The titles of their contributions will then appear on the Agenda published before each Meeting. All MSS. for publication in the 'Bulletin' must be given to the Editor before or at the Meeting.

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